FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Agrium U.S. Inc.

AUTHORIZING THE OPERATION OF
Borger Nitrogen Operations
Nitrogenous Fertilizers

LOCATED AT
Hutchinson County, Texas
Latitude 35° 38' 30" Longitude 101° 25' 22"
Regulated Entity Number: RN101865715

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O1689 Issuance Date: January 10, 2013

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

    C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146.

These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with

the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)

(iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:

(1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.

(2) Records of all observations shall be maintained.

(3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A)

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader

C. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

D. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).

E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

F. Outdoor burning, as stated in 30 TAC § 111.201, shall not be authorized unless the following requirements are satisfied:

(i) Title 30 TAC § 111.205 (relating to Exception for Fire Training)

(ii) Title 30 TAC § 111.207 (relating to Exception for Recreation, Ceremony, Cooking, and Warmth)

(iii) Title 30 TAC § 111.219 (relating to General Requirements for Allowable Outdoor Burning)

(iv) Title 30 TAC § 111.221 (relating to Responsibility for Consequences of Outdoor Burning)

4. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

B. Title 40 CFR § 60.8 (relating to Performance Tests)

C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

D. Title 40 CFR § 60.12 (relating to Circumvention)

E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

F. Title 40 CFR § 60.14 (relating to Modification)

G. Title 40 CFR § 60.15 (relating to Reconstruction)

H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

5. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 61, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 61.05 (relating to Prohibited Activities)

B. Title 40 CFR § 61.07 (relating to Application for Approval of Construction or Modification)

C. Title 40 CFR § 61.09 (relating to Notification of Start-up)

D. Title 40 CFR § 61.10 (relating to Source Reporting and Request Waiver)

E. Title 40 CFR § 61.12 (relating to Compliance with Standards and Maintenance Requirements)

F. Title 40 CFR § 61.13 (relating to Emissions Tests and Waiver of Emission Tests)

G. Title 40 CFR § 61.14 (relating to Monitoring Requirements)

H. Title 40 CFR § 61.15 (relating to Modification)

I. Title 40 CFR § 61.19 (relating to Circumvention)

6. For facilities where no benzene is present onsite in wastes, products, by-products or intermediates, the permit holder shall comply with the reporting requirement in 40 CFR § 61.357(a).

Additional Monitoring Requirements

7. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

8. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

A. Are incorporated by reference into this permit as applicable requirements

B. Shall be located with this operating permit

C. Are not eligible for a permit shield

9. Emission limits include those requirements listed for units in the permitted area under a multiple plant NSR permit.

10. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

11. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

12. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

13. Use of Discrete Emission Credits to comply with the applicable requirements:

    A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

        (i) Title 30 TAC Chapter 115

        (ii) Title 30 TAC Chapter 117

        (iii) If applicable, offsets for Title 30 TAC Chapter 116

        (iv) Temporarily exceed state NSR permit allowables

    B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

        (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

Risk Management Plan

14. For processes subject to 40 CFR Part 68 and specified in 40 CFR § 68.10, the permit holder shall comply with the requirements of the Accidental Release Prevention Provisions in 40 CFR Part 68. The permit holder shall submit to the appropriate agency either a compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR § 68.10(a), or as part of the compliance certification submitted under this permit, a certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of a risk management plan.

Protection of Stratospheric Ozone

15. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:

A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

Permit Location

16. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

17. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Note: A "none" entry may be noted for some emission sources in this permit's "Applicable Requirements Summary" under the heading of "Monitoring and Testing Requirements" and/or "Recordkeeping Requirements" and/or "Reporting Requirements." Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
1	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	30111-0001	30 TAC Chapter 111, Visible Emissions	No changing attributes.
2	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
2	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db	40 CFR Part 60, Subpart Db	No changing attributes.
FL-1	FLARES	N/A	30111-0001	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FL-1MAINT	AMMONIA EMERGENCY FLARE (MAINTENANCE)	N/A	R1111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FL-2	FLARES	N/A	30111-0002	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FL-2MAINT	UREA EMERGENCY FLARE (MAINTENANCE)	N/A	R1111	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FU3	FUGITIVE EMISSION UNITS	N/A	60VVa-1	40 CFR Part 60, Subpart VVa	No changing attributes.
PKGB1	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db	40 CFR Part 60, Subpart Db	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
1	EP	30111-0001	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(B)	Visible emissions from any stationary vent shall not exceed an opacity of 20% averaged over a six-minute period for any source on which construction was begun after January 31, 1972. The emissions from this vent originate from colorless VOCs, non-fuming liquids, or other sources that are not capable of obstructing the transmission of light. These vents are not capable of exceeding the opacity standards of 30 TAC Chapter 111 and therefore no monitoring is required to demonstrate compliance.	None	None	None
2	EP	R1111-1	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
2	EU	60Db	SO_2	40 CFR Part 60,	§ 60.42b(k)(2)	Units firing only very	§ 60.47b(f)	§ 60.45b(k)	§ 60.49b(a)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
				Subpart Db		low sulfur oil and/or a mixture of gaseous fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2 emissions limit in §60.42b(k)(1).		§ 60.49b(o) § 60.49b(r) [G]§ 60.49b(r)(2)	§ 60.49b(a)(1) § 60.49b(r) [G]§ 60.49b(r)(2)
2	EU	60Db	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
2	EU	60Db	PM (OPACITY)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
2	EU	60Db	NO_x	40 CFR Part 60, Subpart Db	§ 60.44b(a)(1)(ii) § 60.44b(h) § 60.44b(i) § 60.46b(a)	Except as in §60.44b(k), (l), on/after §60.8 test, no facility combusting natural gas and distillate oil (high heat	§ 60.46b(c) § 60.48b(g)(2)	[G]§ 60.49b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) [G]§ 60.49b(c) § 60.49b(h)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						release rate) shall discharge gases containing NOx in excess of 86 ng/J heat input.			§ 60.49b(v) § 60.49b(w)
FL-1	EU	30111-0001	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FL-1MAINT	EU	R1111	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FL-2	EU	30111-0002	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FL-2MAINT	EU	R1111	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.11(a).			
FU3	EU	60VVa-1	VOC	40 CFR Part 60, Subpart VVa	§ 60.480a(d)(3) § 60.480a(d)(1) § 60.486a(a)(1) § 60.486a(a)(2) § 60.486a(k)	If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from §§60.482-1a through 60.482-11a.	None	§ 60.486a(i) § 60.486a(i)(2)	None
PKGB1	EU	60Db	SO_2	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	Units firing only very low sulfur oil and/or a mixture of gaseous fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2 emissions limit in §60.42b(k)(1).	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) [G]§ 60.49b(r)(2)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) [G]§ 60.49b(r)(2)
PKGB1	EU	60Db	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
PKGB1	EU	60Db	PM (OPACITY)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
PKGB1	EU	60Db	NO_x	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.46b(a)	Affected facilities combusting coal, oil, or natural gas, or a mixture of these fuels, or any other fuels: a limit of 86 ng/JI (0.20 lb/million Btu) heat input unless the affected facility meets the specified requirements.	§ 60.46b(c) § 60.48b(g)(2)	[G]§ 60.49b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) [G]§ 60.49b(c) § 60.49b(h) § 60.49b(v) § 60.49b(w)

Additional Monitoring Requirements

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 2	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-1
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Once per week	
Averaging Period: n/a	
Deviation Limit: The presence of visible emissions unless an opacity test, as specified in 30 TAC § 111.111(a)(1)(F), is performed and the source is determined to be in compliance. However, if the source is out of compliance, a deviation shall be reported.	
Periodic Monitoring Text: Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If the result of the Test Method 9 is an opacity above the corresponding opacity limit, the permit holder shall report a deviation.	

Permit Shield

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
2	N/A	40 CFR Part 60, Subpart D	Unit is firing fossil fuel at a heat input rate of less than 73 MW (250 MMBtu/hr).
2	N/A	40 CFR Part 60, Subpart Dc	The unit was constructed before June 9, 1989 and has not been modified since then.
COOL-1	N/A	40 CFR Part 63, Subpart Q	Compounds containing chromium are not used.
COOL-2	N/A	40 CFR Part 63, Subpart Q	Compounds containing chromium are not used.
FL-1MAINT	N/A	40 CFR Part 60, Subpart A	The control device is not used to comply with applicable subparts of 40 CFR parts 60 and 61.
FL-1MAINT	N/A	40 CFR Part 63, Subpart A	The control device is not used to comply with applicable subparts of 40 CFR Part 63.
FL-2MAINT	N/A	40 CFR Part 60, Subpart A	The control device is not used to comply with applicable subparts of 40 CFR parts 60 and 61.
FL-2MAINT	N/A	40 CFR Part 63, Subpart A	The control device is not used to comply with applicable subparts of part 63.
GRP-CT	N/A	40 CFR Part 63, Subpart Q	Compounds containing chromium are not used.
PKGB1	N/A	30 TAC Chapter 113, Municipal Solid Waste Landfill	Does not meet the definition of municipal waste combustor.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
PKGB1	N/A	40 CFR Part 60, Subpart AAAA	Does not meet the definition of municipal waste combustor.
PKGB1	N/A	40 CFR Part 60, Subpart D	Unit is firing fossil fuel at a heat input rate of less than 73 MW (250 MMBtu/hr).
PKGB1	N/A	40 CFR Part 60, Subpart Da	Does not meet the definition of an electric utility steam generating unit.
PKGB1	N/A	40 CFR Part 60, Subpart Dc	Maximum design heat capacity is greater than 100 MMBtu/hr.
PKGB1	N/A	40 CFR Part 60, Subpart E	Does not meet the definition of an incinerator.
PKGB1	N/A	40 CFR Part 60, Subpart Ea	Does not meet the definition of municipal waste combustor.
PKGB1	N/A	40 CFR Part 60, Subpart Eb	Does not meet the definition of municipal waste combustor.
PKGB1	N/A	40 CFR Part 60, Subpart J	Borger Plant is not a petroleum refinery.
PKGB1	N/A	40 CFR Part 60, Subpart Ja	Borger Plant is not a petroleum refinery.
PKGB1	N/A	40 CFR Part 60, Subpart KKKK	Does not meet the definition of stationary combustion turbines.
PKGB1	N/A	40 CFR Part 63, Subpart DDDDD	Site is not a major HAPS source.
T-4	N/A	40 CFR Part 60, Subpart K	Tank does not store petroleum liquids.
T-4	N/A	40 CFR Part 60, Subpart Ka	Tank does not store petroleum liquids.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
T-4	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is greater than 75 cubic meters but less than 151 cubic meters, and it stores a liquid with a maximum true vapor pressure less than 15.0 kpa.
T-4	N/A	40 CFR Part 63, Subpart OO	Tank is not subject to another subpart of 40 CFR 60, 61, or 63 that references this subpart.
T-7	N/A	40 CFR Part 60, Subpart K	Tank does not store petroleum liquids.
T-7	N/A	40 CFR Part 60, Subpart Ka	Tank does not store petroleum liquids.
T-7	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is greater than 75 cubic meters but less than 151 cubic meters, and it stores a liquid with a maximum true vapor pressure less than 15.0 kpa.
T-7	N/A	40 CFR Part 63, Subpart OO	Tank is not subject to another subpart of 40 CFR 60, 61, or 63 that references this subpart.
UF-85 TNK	N/A	40 CFR Part 60, Subpart K	Tank does not store petroleum liquids.
UF-85 TNK	N/A	40 CFR Part 60, Subpart Ka	Tank does not store petroleum liquids.
UF-85 TNK	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is greater than 75 cubic meters but less than 151 cubic meters, and it stores a liquid with a maximum true vapor pressure less than 15.0 kpa.

New Source Review Authorization References

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: GHGPSDTX155	Issuance Date: 01/05/2017
PSD Permit No.: PSDTX1326	Issuance Date: 01/05/2017
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 19778	Issuance Date: 01/05/2017
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.183	Version No./Date: 06/18/1997
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.264	Version No./Date: 03/14/1997
Number: 106.371	Version No./Date: 09/04/2000
Number: 106.492	Version No./Date: 09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
1	CO2 STRIPPER DRUM VENT	19778, GHGPSDTX155, PSDTX1326
2	101 B.J. REFORMER	19778, GHGPSDTX155, PSDTX1326
2	101 B.J. REFORMER (AUXILIARY BOILER)	19778, GHGPSDTX155, PSDTX1326
COOL-1	COOLING TOWER - AMMONIA	19778, GHGPSDTX155, PSDTX1326
COOL-2	COOLING TOWER - UREA	19778, GHGPSDTX155, PSDTX1326
FL-1	AMMONIA EMERGENCY FLARE PILOT	19778, GHGPSDTX155, PSDTX1326
FL-1MAINT	AMMONIA EMERGENCY FLARE (MAINTENANCE)	19778, GHGPSDTX155, PSDTX1326
FL-2MAINT	UREA EMERGENCY FLARE (MAINTENANCE)	19778, GHGPSDTX155, PSDTX1326
FL-2	UREA EMERGENCY FLARE PILOT	19778, GHGPSDTX155, PSDTX1326
FU3	COMPONENT LOSSES	19778, GHGPSDTX155, PSDTX1326
GRP-CT	COOLING TOWER	106.371/09/04/2000
PKGB1	PACKAGE BOILER 1	19778, GHGPSDTX155, PSDTX1326
T-4	MDEA STORAGE TANK	19778, GHGPSDTX155, PSDTX1326
T-7	MDEA STORAGE TANK	19778, GHGPSDTX155, PSDTX1326
UF-85 TNK	STORAGE TANK	19778, GHGPSDTX155, PSDTX1326

Appendix A

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
COMS ..... continuous opacity monitoring system
CVS ..... closed-vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
DR ..... Designated Representative
ElP ..... El Paso (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
GF ..... grandfathered
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MMBtu/hr ..... Million British thermal units per hour
MRRT ..... monitoring, recordkeeping, reporting, and testing
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PM ..... particulate matter
ppmv ..... parts per million by volume
PSD ..... prevention of significant deterioration
RO ..... Responsible Official
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table

Permit Number: 19778 and PSDTX1326			Issuance Date: January 5, 2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
1	CO_2 Stripper Vent	CO	6.40	27.79		30	
2	Reformer Furnace 101-B	CO	40.64	34.43	9, 25	6, 10, 25, 30, 31	25, 31
		NO_x	71.54	304.39	9, 25	6, 10, 25, 30, 31	25, 31
		PM	8.20	35.90	8	6, 10, 30, 31	31
		PM_{10}	7.77	34.01	8	6, 10, 30, 31	31
		$PM_{2.5}$	7.07	30.96	8	6, 10, 30, 31	31
		SO_2	1.28	5.61	7	6, 10, 30, 31	31
		VOC	5.93	25.98		6, 10, 30, 31	31
T-4	aMDEA Storage Tank	VOC	0.01	0.01	15	15, 30, 31	31
2-MAINT	Reformer Maintenance	CO	225.00	4.50		26, 30, 31	31
		NO_x	250.00	5.00		26, 30, 31	31
H-5	Start-Up Heater	CO	1.48	0.02		30	
		NO_x	1.76	0.03		30	
		PM	0.13	0.01		30	
		PM_{10}	0.13	0.01		30	
		$PM_{2.5}$	0.13	0.01		30	
		SO_2	0.26	0.01	7	30	
		VOC	0.10	0.01		30	
FU6	Fugitives (5)	NH_3	0.23	1.01	19	19, 29, 30	
FU-CHLR	Fugitives (5)	NH_3	0.01	0.01	19	19, 29, 30	
T-7	aMDEA Storage Tank	VOC	0.20	0.01		30	
SP-73	Shift Converters	CO	3007.81	60.16		26, 30, 31	31
FL-1	Ammonia Emergency Flare	CO	0.26	1.16	12	12, 30, 31	31
		NO_x	0.03	0.13	12	12, 30, 31	31
		SO_2	0.01	0.04	7, 12	12, 30, 31	31
		VOC	0.01	0.01	12	12, 30, 31	31
FL-1MAINT	Ammonia Emergency Flare (maintenance)	NH_3	0.69	0.18	12, 19	12, 19, 26, 29, 30, 31	31
		NO_x	0.09	0.02	12	12, 26, 30, 31	31

Major NSR Summary Table

Permit Number: 19778 and PSDTX1326			Issuance Date: January 5, 2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
4b	Urea Melt Process	NH_3	3.97	0.03	19	19, 29, 30, 31	31
PKGB1	Package Boiler 1	CO	9.60	42.05	3, 13, 23, 25	3, 23, 25, 30, 31	3, 23, 25, 31
		NO_x	2.40	10.51	3, 13, 23, 25	3, 23, 25, 30, 31	3, 23, 25, 31
		PM	1.79	7.83	3, 13, 23	3, 23, 30, 31	3, 23, 31
		PM_{10}	1.69	7.42	3, 13, 23	3, 23, 30, 31	3, 23, 31
		$PM_{2.5}$	1.54	6.76	3, 13, 23	3, 23, 30, 31	3, 23, 31
		SO_2	0.28	1.22	3, 7	3, 30, 31	3, 31
		VOC	1.29	5.67	3, 23	3, 23, 30, 31	3, 23, 31
6	Granulator Scrubber and Cooler Scrubber	NH_3	132.24	579.21	14, 19, 23,	14, 19, 23, 29, 30, 31	23, 31
		PM	22.05	96.56	14, 23, 28	14, 23, 28, 30, 31	23, 28, 31
		PM_{10}	22.05	96.56	14, 23, 28	14, 23, 28, 30, 31	23, 28, 31
		$PM_{2.5}$	19.84	86.91	14, 23, 28	14, 23, 28, 30, 31	23, 28, 31
		VOC	0.12	0.54		30, 31	31
UF-85 TNK	UF-85 Storage Tank	VOC	0.02	0.05	15, 16, 17	15, 16, 17, 30, 31	31
FU1	Fugitive Emissions - Conveyor	PM	0.06	0.23	22	30	
		PM_{10}	0.01	0.01	22	30	
FU2A	Fugitive Emissions - Bulk Loading	PM	0.12	0.43	22	30, 31	31
		PM_{10}	0.12	0.43	22	30, 31	31
		$PM_{2.5}$	0.12	0.43	22	30, 31	31
FU2B	Fugitive Emissions - Bulk Handling North Fans	PM	0.06	0.25	22	30, 31	31
		PM_{10}	0.02	0.09	22	30, 31	31
		$PM_{2.5}$	0.02	0.09	22	30, 31	31
FU2C	Fugitive Emissions - Bulk Handling South Fans	PM	0.06	0.25	22	30, 31	31
		PM_{10}	0.02	0.09	22	30, 31	31
		$PM_{2.5}$	0.02	0.09	22	30, 31	31
FU2D	Fugitive Emissions - Bulk Handling Door	PM	0.01	0.05	22	30, 31	31
		PM_{10}	0.01	0.02	22	30, 31	31
		$PM_{2.5}$	0.01	0.02	22	30, 31	31
FU3	Fugitive Emissions - Piping (5)	NH_3	0.22	0.95	19	19, 29, 30, 31	31

Major NSR Summary Table

Permit Number: 19778 and PSDTX1326			Issuance Date: January 5, 2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
FU4A	Conveyor Transfer to New Warehouse	PM	0.03	0.11	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.04	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.01	20, 22	20, 30, 31	31
FU5B	Material Drop	PM	0.01	0.01	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.01	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.01	20, 22	20, 30, 31	31
FU5C	Reclaimer	PM	0.01	0.01	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.01	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.01	20, 22	20, 30, 31	31
FU4B	Conveyor Transfer to Prescreening	PM	0.01	0.01	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.01	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.01	20, 22	20, 30, 31	31
FU6A	Screening	PM	0.03	0.11	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.03	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.03	20, 22	20, 30, 31	31
FU5A-RC	Railcar Load-Out	PM	0.01	0.06	20, 22	20, 30, 31	31
		PM_{10}	0.01	0.03	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.01	20, 22	20, 30, 31	31
FU5A-TR	Truck Load-Out	PM	0.07	0.29	20, 22	20, 30, 31	31
		PM_{10}	0.03	0.14	20, 22	20, 30, 31	31
		$PM_{2.5}$	0.01	0.02	20, 22	20, 30, 31	31
SC-100	Prescreening to Baghouse	PM	0.64	2.82	20, 22, 28	20, 28, 30, 31	28, 31
		PM_{10}	0.55	2.39	20, 22, 28	20, 28, 30, 31	28, 31
		$PM_{2.5}$	0.19	0.85	20, 22, 28	20, 28, 30, 31	28, 31
SC-101	Warehouse to Baghouse	PM	0.99	4.33	20, 22, 28	20, 28, 30, 31	28, 31
		PM_{10}	0.84	3.68	20, 22, 28	20, 28, 30, 31	28, 31
		$PM_{2.5}$	0.30	1.30	20, 22, 28	20, 28, 30, 31	28, 31
SC-102	Rail and Truck Loadout to Baghouse	PM	1.50	6.57	20, 22, 28	20, 28, 30, 31	28, 31
		PM_{10}	1.28	5.59	20, 22, 28	20, 28, 30, 31	28, 31
		$PM_{2.5}$	0.45	1.97	20, 22, 28	20, 28, 30, 31	28, 31

Major NSR Summary Table

Permit Number: 19778 and PSDTX1326			Issuance Date: January 5, 2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
COOL-1	Cooling Tower - Ammonia	Cl_2	0.03	0.15	11	30, 31	31
		NH_3	1.65	7.24	11	11, 29, 30, 31	11, 31
		PM	1.01	4.41	11	11, 30, 31	31
		PM_{10}	0.21	0.92	11	11, 30, 31	31
		$PM_{2.5}$	0.01	0.01	11	30, 31	31
COOL-2	Cooling Tower - Urea	Cl_2	0.01	0.01	11	30, 31	31
		NH_3	0.18	0.80	11	11, 29, 30, 31	11, 31
		PM	0.07	0.30	11	11, 30, 31	31
		PM_{10}	0.06	0.28	11	11, 30, 31	31
		$PM_{2.5}$	0.01	0.01	11	30, 31	31
FL-2	Urea Emergency Flare	CO	1.52	6.66	12	12, 30, 31	31
		NO_x	0.18	0.78	12	12, 30, 31	31
		SO_2	0.06	0.24	7, 12	12, 30, 31	31
		VOC	0.01	0.07	12	12, 30, 31	31
FL-2MAINT	Urea Emergency Flare (maintenance)	NH_3	22.17	0.18	12, 19	12, 19, 27, 29, 30, 31	31
		NO_x	3.04	0.02	12	12, 27, 30, 31	31
5	Prilling Tower Scrubber	NH_3	6.56	23.35		29, 30	
		PM	13.90	49.50	28	28, 30	28
		PM_{10}	12.24	43.57	28	28, 30	28
		VOC	3.28	11.69		30	
2061-MF	Sulfuric Acid Storage Tank	H_2SO_4	0.01	0.01	15	15, 30, 31	31

Footnotes:

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3)
Cl_2	-	chlorine
CO	-	carbon monoxide
H_2SO_4	-	sulfuric acid
NH_3	-	ammonia
NO_x	-	total oxides of nitrogen
PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10}	-	total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$	-	particulate matter equal to or less than 2.5 microns in diameter
SO_2	-	sulfur dioxide
VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

Major NSR Summary Table

Permit Number: GHGPSDTX155				Issuance Date: January 5, 2017			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
1	CO_2 Stripper Vent	CO_2 (5)	192,500	843,150		3, 11, 12, 13, 14	14
		CH_4 (5)		--			
		N_2O (5)		--			
		CO_2e	192,500	843,150			
		GHG mass basis	192,500	843,150			
2	Reformer Furnace 101-B	CO_2 (5)	128,638.58	563,437	5, 6	4, 5, 6, 11, 12, 13, 14	14
		CH_4 (5)	2.42	10.62			
		N_2O (5)	0.24	1.06			
		CO_2e	128,772	564,019			
		GHG mass basis	128,641	563,449			
FL-1	Ammonia Emergency Flare	CO_2 (5)	36	157	7	7, 11, 12, 13, 14	14
		CH_4 (5)	<0.01	<0.01			
		N_2O (5)	<0.01	<0.01			
		CO_2e	36	157			
		GHG mass basis	36	157			
PKGB1	Package Boiler 1	CO_2 (5)	28,066.67	122,932	8	8, 11, 12, 13, 14	14
		CH_4 (5)	0.53	2.32			
		N_2O (5)	0.05	0.23			
		CO_2e	28,096	123,059			
		GHG mass basis	28,067	122,934			
FL-2	Urea Emergency Flare	CO_2 (5)	323	1,416	7	7, 11, 12, 13, 14	14
		CH_4 (5)	<0.01	0.03			
		N_2O (5)	<0.01	<0.01			
		CO_2e	324	1,418			
		GHG mass basis	323	1,416			

Major NSR Summary Table

Permit Number: GHGPSDTX155				Issuance Date: January 5, 2017			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
FL-2MAINT	Urea Emergency Flare (maintenance)	CO_2 (5)	82.04	5.91	7	7, 10, 11, 12, 13, 14	14
		CH_4 (5)		--			
		N_2O (5)		--			
		CO_2e	82.04	5.91			
		GHG mass basis	82.04	5.91			

Footnotes:

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) CO_2 - carbon dioxide
CH_4 - methane
N_2O - nitrous oxide
CO_2e - carbon dioxide equivalents based on the following Global Warming Potentials (12/2014): CO_2 (1), CH_4(25), N_2O (298)
GHG - Greenhouse gas
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
(5) Emission rate is given for informational purposes only and does not constitute enforceable limit.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Agrium U.S. Inc.
Authorizing the Continued Operation of
Agrium US Borger Nitrogen Operations
Located at **Borger, Hutchinson County, Texas**
Latitude 35° 38′ 30″ Longitude −101° 25′ 22″

Permits: 19778, PSDTX1326 and GHGPSDTX155

Issuance Date: January 5, 2017

Expiration Date: January 5, 2027

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] [1]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

SPECIAL CONDITIONS

Permit Numbers 19778 and PSDTX1326

Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing ammonia (NH_3) or volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions with the exception of the relief valves in natural gas service listed below:

Excepted Relief Valves in Natural Gas Service			
RV-101-D	RV-104-D1A	RV-101-E	RV-NG-22
RV-102-D	RV-104-D2	RV-104-F	RV-FG-3
RV-110-D	RV-109-D	RV-105-F	RV-SG-39
RV-104-D1		RV-102-F	RV-101-L

Federal Applicability

3. These facilities shall comply with the following:

   A. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated for the following:

      (1) Industrial-Commercial-Institutional Steam Generating Units in Title 40 Code of Federal Regulations (40 CFR) Part 60, Subparts A and Db.

      (2) Stationary Compression Ignition Internal Combustion Engines in 40 CFR Part 60, Subparts A and IIII.

   B. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories promulgated for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subparts A and ZZZZ.

Operational Limits

4. Emission limits for the facility are based on the following:

Source Name	Maximum Hourly Throughput (lbs)	Maximum Rolling 12–Month Throughput (Tons)
Urea Melt Operations	181,830	796,415
Urea Prilling Operation	30,000	106,800
Urea Granules Operations	166,667	730,000

No changes shall be made to the above limitations without prior approval by the Texas Commission on Environmental Quality (TCEQ).

5. Reserved.

6. Production of NH_3 shall not exceed 1,925 tons per day. Cumulative records of TPY shall be maintained on a monthly basis. Records of the production rate (both daily and annual) covering the current calendar year and the two most recent complete calendar years shall be maintained at the plant site and made available to TCEQ personnel upon request.

7. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide (H_2S) per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf. The fuel gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

Reformer

8. There shall be no visible emissions from the Reformer, Emission Point No. (EPN) 2, with the exception of steam.

9. Emissions of nitrogen oxides (NO_x) and carbon monoxide (CO) from Reformer Furnace 101-B, EPN 2, shall not exceed the following:

   A. 0.065 lb NO_x/MMBtu on an hourly average, 0.063 lb/MMBtu on a rolling 12-month average during operations other than maintenance, startup, and shutdown (MSS).

   B. 50 ppmvd CO corrected to 3 percent oxygen (O_2) on an hourly average.

10. The temperature of the reformer shall be recorded at least every 6 minutes as six minute averages. Records of the temperature shall be maintained at the plant site and made available to TCEQ personnel upon request.

    Neither NH_3 nor gas bearing NH_3 shall be routed to the reformer until the reformer chamber temperature exceeds a minimum temperature of 1300°F.

    Quality-assured or valid data must be generated when the reformer is operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the reformer operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Cooling Towers

11. The cooling towers identified as EPNs COOL-1 and COOL-2 shall be subject to the following conditions:

    A. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method 350.1NS for ammonia nitrogen in water.

    B. As an alternative to the monitoring method required in A of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method 350.1NS, provided that he previously obtains written approval from the TCEQ Air Permits Division.

C. The holder of this permit shall perform sampling and other testing as necessary to establish the pounds per hour of NH_3 being emitted into the atmosphere from the cooling towers associated with this permit. All sampling and testing methods, prior to their implementation, shall be subject to approval of the TCEQ Executive Director under A or B of this condition. The concentration (ppmv) of NH_3 in the exhaust from the sampling and the corresponding pounds of strippable NH_3/gallon of cooling water shall be recorded. These will be used to determine the level (either ppmv or lb NH_3/gal) at which a leak into cooling water will be assumed in the ongoing monitoring program. Within 30 days after completion of all sampling used to determine this assumed leak level, copies of the test report shall be submitted to the TCEQ Air Permits Division and the TCEQ Amarillo Regional Office.

D. The NH_3 associated with cooling tower water shall be monitored monthly with the EPA Method 350.1NS or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive NH_3 emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded. The records shall be made available to the TCEQ Executive Director or his designated representative upon request.

E. The cooling water shall be sampled once a week for total dissolved solids (TDS) and once a day for conductivity. Dissolved solids in the cooling water drift are considered to be emitted as particulate matter (PM) ≤ 10 microns diameter (PM_{10}). The data shall result from collection of water samples from the cooling tower feed water and represent the water being cooled in the tower. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. The analysis method for Conductivity shall be ASTM D1125-95A and SM2510 B. Use of an alternative method shall be approved by the TCEQ Air Permits Division prior to its implementation.

F. The cooling towers shall operate with drift eliminators that achieve less than or equal to 0.001 percent drift.

G. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method SM 4500-Cl G-93 for chlorine in water.

H. As an alternative to the monitoring method required in G of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method SM 4500-Cl G-93, provided that he previously obtains written approval from the TCEQ Air Permits Division.

Flares

12. The flares identified as EPNs FL-1, FL-2, FL-1MAINT, and FL-2MAINT shall be designed and operated in accordance with the following requirements:

A. The flare systems shall be designed such that the stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed, at a frequency in accordance with, the manufacturer's specifications.

C. The flares shall be operated with no less than 98 percent efficiency in disposing of NH_3 captured by the collection system, and no less than 98 percent efficiency in disposing of the carbon compounds captured by the collection system.

D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

E. The permit holder shall demonstrate that the Urea Emergency Flare, EPNs FL-2 or FL-2MAINT, meets at all times the minimum flared gas BTU content limit, as follows:

(1) The flare shall be equipped so that an unexpected release of gas to the flare automatically results in routing sufficient natural gas to the flare so that the combined stream meets the minimum flared gas BTU content limit.

(2) The flare shall be equipped and operated so that a planned release of gas to the flare does not take place until sufficient natural gas is routed to the flare so that that the combined stream meets the minimum flared gas BTU content limit.

(3) The permit holder shall maintain on site records of the flow rate and BTU content of gas released to the flare, together with the time of start and of end of such releases.

(4) The permit holder shall maintain on site records of the flow rate and BTU content of the natural gas routed to the flare, together with the time of start and of end of such natural gas routing.

Boiler

13. Emissions of NO_X, CO, and PM from the Package Boiler 1, EPN PKGB1, shall not exceed the following:

A. 0.01 lb NO_X/MMBtu on an hourly and annual average, controlled with ultra-low-NO_X burners and flue gas recirculation.

B. 0.04 lb CO/MMBtu on an hourly and annual average, controlled with good combustion practices.

C. 5% opacity, controlled with good combustion practices.

Scrubbers

14. The Granulator Scrubber and Cooler Scrubber, EPN 6, shall comply with the following:

A. The absorbers identified as EPN 6 shall operate with no less than 99 percent removal efficiency on an hourly average for PM, PM_{10}, and/or PM ≤ 2.5 microns diameter ($PM_{2.5}$).

B. Circulation flow to the absorbers identified as EPN 6 shall comply with the following:

(1) The minimum circulation flow to the absorbers shall be 212.2 gpm for the Granulator Scrubber and 143.85 gpm for the Cooler Scrubber prior to the first stack test performed in accordance with Special Condition (SC) No. 23. After the first satisfactory stack test, the flow shall be at least equal to that maintained during the last satisfactory stack test. The circulation rate shall be monitored and recorded at least once an hour.

(2) The flow monitoring devices shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

C. Liquid specific gravity in the absorber identified as EPN 6 shall comply with the following:

(1) The maximum absorber liquid specific gravity shall not exceed 1.15 prior to the first stack test performed in accordance with SC No. 23. After the first satisfactory stack test, the specific gravity shall not exceed the average specific gravity maintained during the last satisfactory stack test. The specific gravity shall be recorded at least every 6 minutes as six minute averages. Urea strength in the liquid may be monitored and recorded as an alternative to absorber liquid specific gravity.

(2) The specific gravity device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 0.02 specific gravity units.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

D. Maximum stack exhaust temperature from the absorbers identified as EPN 6 shall comply with the following:

(1) The maximum stack exhaust temperature shall not exceed 118.04 °F prior to the first stack test performed in accordance with SC No. 23. After the first satisfactory stack test, the temperature shall not exceed the average temperature maintained during the last satisfactory stack test. The temperature shall be recorded at least every 6 minutes as six minute averages.

(2) The temperature monitoring device shall be placed downstream of the combined scrubber exhaust streams and be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of the reading or 2.5 degrees Celsius.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

E. The differential pressure across the absorbers identified as EPN 6 shall comply with the following:

(1) The differential pressure shall be no greater than 16.7 inches of water at the Granulator Scrubber and 3.9 inches of water at the Cooler Scrubber. The differential pressure shall be recorded at least every 6 minutes as six minute averages.

(2) The pressure monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 1.0 inches water gauge pressure or 2.0 percent of span.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Storage Tanks

15. The storage tanks identified as EPNs UF-85 TNK**,** T-4, and 2061-MF are subject to the following requirements.

A. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12 month period for each tank.

C. Storage tank throughput and service shall be limited to the following:

Tank	Service	Fill/Withdrawal Rate (gallons/hour)	Rolling 12 Month Throughput (gallons)
UF-85-TNK	VOC	2,700	1,033,725
T-4	VOC	9,000	15,000
2061-MF	Sulfuric Acid	9,000	200,000

D. All vents from the storage tank identified as EPN UF-85 TNK shall be routed to a carbon adsorption system (CAS).

E. The storage tank identified as EPN UF-85 TNK shall be equipped with a temperature gauge at the top and another at the bottom, to demonstrate that the stored liquid temperature does not exceed 130°F. The temperatures measured shall be recorded at least once per hour.

Carbon Adsorption System

16. The storage tank identified as EPN UF-85TNK shall vent through a CAS consisting of at least two activated carbon canisters that are connected in series and which shall comply with the following:

A. The CAS shall be sampled to determine breakthrough of VOC. The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. When the tank is being filled, sampling shall be performed within 15 minutes of start of filling and at least once every hour after that. When the tank is not being filled, sampling shall be performed between 1:00 PM and 5:00 PM at least once every seven days.

B. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a TCEQ-approved alternative detector. The instrument/FID must meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis for VOC breakthrough shall be performed as follows:

(1) Immediately prior to performing sampling, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. Span calibration gas shall be formaldehyde at a concentration within ± 10 percent of 20 ppmv, and certified by the manufacturer to be ± 2 percent accurate. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.

(2) The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sample ports or connections must be designed such that air leakage into the sample port does not occur during sampling.

(3) During sampling, data recording shall not begin until after two times the instrument response time. The VOC concentration shall be monitored for at least 5 minutes, recording 1-minute averages.

C. Breakthrough shall be defined as the highest 1 minute average measured VOC concentration at or exceeding 20 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within one hour when the tank is being filled or within seven days when the tank is not being filled. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.

D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

(1) Sample time and date.
(2) Monitoring results (ppmv).
(3) Corrective action taken including the time and date of that action.
(4) Process operations occurring at the time of sampling.

E. Alternate monitoring or sampling requirements that are equivalent or better may be approved by the TCEQ Regional Manager or the TCEQ Regulatory Compliance Section Manager. Alternate requirements must be approved in writing before they can be used for compliance purposes.

17. Visual inspection for carbon build up around the stack shall occur once a week. If carbon build up is noticed, it shall be recorded, the CAS shall be shut down, and corrective action shall be taken in accordance with the system maintenance manual.

Loading of NH_3

18. Tank truck and railcar NH_3 loading operations shall take place under pressurized conditions with no vents releasing to the atmosphere. The loading lines shall be depressurized back into the process to prevent the loss of this material to the atmosphere.

19. Piping, Valves, Pumps, and Compressors in NH_3 Service (28AVO)

A. Audio, olfactory, and visual (AVO) checks for NH_3 leaks within the operating area shall be made every four hours by operators during regular rounds.

B. Immediately, but no later than four hours upon detection of a leak, plant personnel shall take at least one of the following actions as appropriate:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

C. Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made. These records shall be made available to representatives of the TCEQ upon request.

Baghouses

20. Emissions controlled with a baghouse shall be subject to the following conditions:

    A. Material handling baghouses, designed to meet an outlet grain loading of 0.01 grains PM per dry standard cubic foot of exhaust or 99 percent removal efficiency, properly installed and in good working order, shall control PM, $PM_{10,}$ and PM ≤ 2.5 microns diameter ($PM_{2.5}$) emissions from the following sources:

EPN	Source
FU4A	Conveyor Transfer to Warehouse
FU5B	Material Drop
FU5C	Reclaimer
FU4B	Conveyor Transfer to Prescreening
FU6A	Screening
FU5A-RC	Railcar Load-Out
FU5A-TR	Truck Load-Out
SC-100	Prescreening to Baghouse
SC-101	Warehouse to Baghouse
SC-102	Rail and Truck Loadout to Baghouse

    B. Opacity of emissions from any single fabric filter baghouse stack listed in A of this condition shall not exceed 5 percent averaged over a six-minute period. Determination of compliance with this requirement shall be made by first observing for visible emissions during normal plant operations. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from the emission point, opacity shall be determined using the U.S. EPA 40 CFR Part 60, Appendix A, TM 9. Contributions from uncombined water vapor shall not be included in determining compliance with this condition. Determination of compliance with this requirement shall be performed and the results recorded monthly.

    C. The holder of this permit shall install, calibrate, and maintain a device to monitor and record pressure drop in each baghouse. The monitoring device shall be calibrated in accordance with the manufacturer's specifications at least annually and shall be accurate to within a range of ± 0.5 inches water gauge pressure (± 125 pascals); or ± 0.5% of span. Pressure drop readings shall be recorded at least once per day during baghouse operations.

Solids Handling

21. The prilling operations in EPN 5 shall be controlled by a scrubber. The scrubber shall be equipped with a dual mist eliminator system.

22. Visible emissions shall be controlled with the following practices:

    A. Exterior belt conveyors shall be equipped with a cover. All other conveyors, bucket elevators, and dry fertilizer handling equipment located outside and not contained within a building shall be enclosed. These covers and enclosures are considered abatement equipment and shall be kept in good repair at all times.

B. All truck and rail loading chutes/spouts shall be equipped with drop socks, or the equivalent, at the drop point to minimize fugitive emissions from loadout areas. These socks shall be kept in good repair at all times. Truck and rail loading facilities constructed after October 1, 2013 shall be equipped with retractable spouts equipped with a vacuum system to collect PM_{10} and route it to a baghouse.

C. Spillage of any prills or granules outside the storage warehouses shall be picked up and properly disposed of on a daily basis.

D. All in-plant roads, parking areas, and traffic areas shall consist of a non-dusty base material, be watered, treated with effective dust suppressant(s), and/or paved and cleaned as necessary to achieve maximum control of dust emissions.

E. No visible emissions from the loadout areas shall leave the property.

Initial Demonstration of Compliance

23. The permit holder shall perform stack sampling and other testing as follows:

A. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Package Boiler 1, EPN PKGB1, for CO, NO_x, PM, PM_{10}, $PM_{2.5}$, and VOC, at maximum firing rate and normal operating rate, to demonstrate compliance with the MAERT and with SC No. 13.

B. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Granulator Scrubber and Cooler Scrubber, EPN 6, for NH3 and PM, PM_{10}, and $PM_{2.5}$, at maximum unit production rate and scrubber flow rates, and at minimum unit production rate and scrubber flow rates, to demonstrate compliance with the MAERT and with SC No. 14.

C. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and EPA Reference Methods.

D. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

E. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.
(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
(7) Procedure and parameters to be used to determine worst case emissions during the sampling period.

F. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

G. Air contaminants emitted from EPNs PKGB1 and 6 to be tested for include, but are not limited to, those specified in A and B of this condition.

H. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the modified facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

I. The facility being sampled shall operate at the rate expected to cause maximum emissions for each air contaminate required to be tested during stack emission testing. These conditions and parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition or parameter range is identified in the test notice specified in E of this condition and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

J. During subsequent facility operations, if the test design parameters in I of this condition are greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

K. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

24. Sampling ports and platform(s) shall be incorporated into the design of EPNs PKGB1 and 6 according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities" of the TCEQ Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Continuous Demonstration of Compliance

25. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of CO, NO_x, and oxygen (O_2) from the Reformer EPN 2 and from the Package Boiler 1, EPN PKGB1.

A. Each CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications No. 1 through 6, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ in Austin for requirements to be met.

B. Section (1) below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section (2) applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) Each system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of New Source Performance Standards (NSPS) or NESHAPS, in which case zero and span shall be done daily without exception.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of ±15 percent accuracy indicate that the CEMS is out of control.

C. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each source. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally-spaced data points from each one-hour period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of CFR Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.

The measured hourly average concentration from the CEMS shall be multiplied by the measured exhaust gas flow rate to determine the hourly emission rate.

D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. All CGA exceedances of ±15 percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken.

Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

F. The appropriate TCEQ Regional Office shall be notified at least 15 days prior to each CGA in order to provide them the opportunity to observe the testing.

G. The emission rates of O_2, NO_x, and CO shall be manually recorded from the analyzers at least once per hour when the CEMS data acquisition system is not functioning.

H. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

I. Quality-assured (or valid) data must be generated when the Reformer EPN 2 and the boiler EPN PKGB1 are operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Reformer EPN 2 and the boiler EPN PKGB1 operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgement and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

Maintenance, Startup, and Shutdown

26. Ammonia Plant planned MSS activities are subject to the following:

A. This permit authorizes emissions from the Shift Converters, the Reformer, and the Ammonia Flare for the following maintenance, start-up, and shutdown activities:

Authorized Emissions		
EPN	**Source Name**	**Activity**
SP-73	Shift Converters	Planned Maintenance
2-MAINT	Reformer	Planned Maintenance
FL-1-MAINT	Ammonia Flare	Planned Maintenance

B. Planned maintenance activities associated with EPN SP-73 may not exceed 40 hours per year, on a rolling 12-month basis.

C. Planned maintenance activities associated with EPN 2-MAINT may not exceed 40 hours per year, on a rolling 12-month basis.

D. Planned maintenance activities associated with EPN FL-1-MAINT may not exceed 144 hours per year, on a rolling 12-month basis.

E. These emissions are subject to the maximum allowable emission rates indicated on the MAERT.

F. The holder of this permit shall keep records to demonstrate compliance with this permit condition.

27. Urea Plant planned MSS activities may not exceed 144 hours per year, on a rolling 12-month basis, for EPN FL-2MAINT.

This permit authorizes emissions from the urea plant flare (EPN FL-2MAINT), which are shown separately for planned maintenance, startup and shutdown (MSS) activities specified as follows:

(1) maintenance for ammonia and carbamate heat exchangers;

(2) planned shutdown and maintenance of ammonia and carbamate vessels, pumps, and lines.

These planned maintenance, start-up, and shutdown activities are as follows:

(1) Internal and external inspection
(2) Replace gasket
(3) Extended outage
(4) Plug tube
(5) Replace/repair tube
(6) Clean-up
(7) Replace/repair internals
(8) Replace/repair relief valve
(9) Replace process indicators
(10) Replace/repair nozzle
(11) Repair weld failure
(12) Replace the vessel

These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each maintenance activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

A. the physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;

B. the type of planned maintenance, startup, or shutdown activity and the reason for the planned activity;

C. the common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;

D. the date and time of the MSS activity and its duration;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the amendment application, PI-1 dated November 2, 2012, consistent with good engineering practice.

Compliance Assurance Monitoring (CAM)

28. The following requirements apply to the capture systems for the Prilling Tower Scrubber, EPN 5; the Granulation Scrubber System, EPN 6; the Prescreening to Baghouse, EPN SC-100; the Warehouse to Baghouse, EPN SC-101; and the Rail and Truck Loadout to Baghouse, EPN SC-102:

A. Each capture system for each EPN shall comply at least once a year with one of the following:

(1) Inspect any fan and verify proper operation and inspect the capture system to verify there are no cracks, holes, tears, and other defects; or

(2) Verify there are no fugitive emissions escaping from the capture system by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

B. The control device shall not have a bypass.

C. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when required to be in service under this permit.

D. If any of the inspections under A of this condition is not satisfactory, the permit holder shall promptly take necessary corrective action. Records shall be maintained documenting the performance and results of the inspections required in this condition.

Recordkeeping

29. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

30. Records of rolling 12-month period throughput shall be maintained at this facility.

Permit Effective Dates

31. Permit conditions and emission rates in effect at any time will be determined in accordance with this permit condition.

A. The holder of this permit shall retain copy of the notification to the TCEQ Amarillo Regional Office of the following actions:

(1) The start of operation of the modifications of the Ammonia and of the Urea Manufacturing Plants, as authorized in the amendments to Permit No. 19778 issued on January 10, 2014, and October 6, 2014, except for the Reformer Furnace 101-B (EPN 2), Cooler Scrubber (EPN 6), Urea Emergency Flare (EPN FL-2), and Urea Emergency Flare - maintenance (EPN FL-2MAINT).

(2) The start of operation of the modifications of the Cooler Scrubber (EPN 6), Urea Emergency Flare (EPN FL-2), and Urea Emergency Flare - maintenance (EPN FL-2MAINT), as authorized in the amendments to Permit No. 19778 issued on January 10, 2014, and October 6, 2014.

(3) The start of operation of the modifications of the Reformer Furnace 101-B (EPN 2), as authorized in the amendments to Permit No. 19778 issued on January 10, 2014, and October 6, 2014.

B. Prior to the start of operation of the modifications addressed in A of this condition, SC nos. 1 through 30 and the MAERT will be suspended.

C. Prior to the start of operation of the modifications addressed in A of this condition, the following will be in effect:

(1) The permit conditions in Appendices 1 and 3.

(2) The emission rates in Appendices 2 and 4.

D. Upon the start of operation of the Ammonia Manufacturing Plant modifications addressed in A(1) of this condition, the permit conditions and emission rates in Appendices 1, 2, 3, and 4 will cease to be in effect. At that point, the following will become effective:

(1) The permit conditions in Appendices 5 and 7.

(2) The emission rates in Appendices 6 and 8.

E. Upon the start of operation of the Urea Manufacturing Plant modifications addressed in A(2) of this condition, the permit conditions and emission rates in Appendices 5, 6, 7, and 8 will cease to be in effect. At that point, the following will become effective:

(1) The permit conditions in Appendices 9 and 11.

(2) The emission rates in Appendices 10 and 12.

F. Upon the start of operation of the remaining modifications of the Ammonia and of the Urea Manufacturing Plants addressed in A(3) of this condition, the permit conditions and emission rates in Appendices 9, 10, 11, and 12 will cease to be in effect. At that point, SC nos. 1 through 30 and the MAERT will become effective.

G. No later than six months after the start of operation of the remaining modifications of the Ammonia and of the Urea Manufacturing Plants addressed in A(3) of this condition, the holder of this permit shall apply to alter Permit No. 19778 to remove from the permit SC No. 31 and Appendices 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

APPENDIX 1

SPECIAL CONDITIONS

Ammonia Manufacturing Plant

Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

2. There shall be no visible emissions from the Reformer, Emission Point No. (EPN) 2, with the exception of steam.

Continuous Demonstration of Compliance

3. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of oxygen (O_2), nitrogen oxides (NO_x), and carbon monoxide (CO) from the Reformer EPN 2, in order to demonstrate compliance with Special Condition No. 1.

   A. Each CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications No. 1 through 6, Title 40 Code of Federal Regulations Part 60, Appendix B (40 CFR Part 60, Appendix B). If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the Texas Commission on Environmental Quality (TCEQ) in Austin for requirements to be met.

   B. Section (1) below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section (2) applies to all other sources:

      (1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

      (2) Each system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants, in which case zero and span shall be done daily without exception.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of ±15 percent accuracy indicate that the CEMS is out of control.

C. The monitoring data shall be reduced to hourly average concentrations at least once everyday, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emissions rate in pounds per hour (lb/hr) at least once every week as follows:

The fuel gas flow rate to the reformer furnace shall be measured and used to calculate the exhaust gas flow rate from the reformer. The measured hourly average NO_x and CO concentrations from the CEMS shall be multiplied by the exhaust gas flow rate to determine the hourly emission rate.

A cumulative total of tons per year (tons/year) emitted shall also be maintained on a monthly basis.

D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. All CGA exceedances of ±15 percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken.

Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

F. The appropriate TCEQ Regional Office shall be notified at least 15 days prior to each CGA in order to provide them the opportunity to observe the testing.

G. The emission rates of O_2, NO_x, and CO shall be manually recorded from the analyzers at least once per hour when the CEMS data acquisition system is not functioning.

H. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

I. Quality-assured (or valid) data must be generated when the Reformer EPN 2 is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Reformer EPN 2 operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgement and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

4. The temperature of the reformer shall be recorded at least once every three hours. Records of the temperature shall be maintained at the plant site and made available to TCEQ personnel upon request.

   Neither ammonia (NH_3) nor NH_3-bearing gas shall be routed to the reformer until the reformer chamber temperature exceeds a minimum temperature of 1300°F.

Leak Detection and Repair Program

5. Piping, Valves, Pumps, and Compressors in NH_3 Service

   A. Audio, olfactory, and visual checks for NH_3 leaks within the operating area shall be made every four hours by operators during regular rounds.

   B. Immediately, but no later than four hours upon detection of a leak, plant personnel shall take at least one of the following actions as appropriate:

      (1) Isolate the leak.

      (2) Commence repair or replacement of the leaking component.

      (3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

      Records shall be maintained at the plant site of all repairs and replacements made. These records shall be made available to representatives of the TCEQ upon request.

6. Cooling Tower Monitoring - The cooling tower shall be subject to the following conditions:

   A. The holder of this permit shall perform monthly cooling tower water monitoring using the U.S. Environmental Protection Agency (EPA) Method 350.1NS for ammonia nitrogen in water.

   B. Instead of the monitoring method required in A of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method 350.1NS, provided that he previously obtains written approval from the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division.

   C. The holder of this permit shall perform sampling and other testing as necessary to establish the pounds per hour of NH_3 being emitted into the atmosphere from the cooling towers associated with this permit. All sampling and testing methods, prior to their implementation, shall be subject to approval of the TCEQ Executive Director under A or B of this condition. The NH_3 concentration (ppmv) in the exhaust from the sampling and the corresponding pounds of strippable NH_3/gallon of cooling water shall be recorded. These will be used to determine the level (either ppmv or lb/NH_3/gal) at which a leak into cooling water will be assumed in the ongoing monitoring program. Within 30 days after completion of all sampling used to determine this assumed leak level, copies of the test report shall be submitted to the TCEQ Air Permits Division and the TCEQ Amarillo Regional Office.

D. The NH_3 associated with cooling tower water shall be monitored monthly with the EPA Method 350.1NS or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive NH_3 emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded. The records shall be made available to the TCEQ Executive Director or his designated representative upon request.

Operational Practices

7. Production of NH_3 shall not exceed 1,600 tons per day. Cumulative records of TPY shall be maintained on a monthly basis. Records of the production rate (both daily and annual) covering the current calendar year and the two most recent complete calendar years shall be maintained at the plant site and made available to TCEQ personnel upon request.

8. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing NH_3 or volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions with the exception of the relief valves in natural gas service listed below:

RV-101-D	RV-104-D1A	RV-101-E	RV-NG-22
RV-102-D	RV-104-D2	RV-104-F	RV-FG-3
RV-110-D	RV-109-D	RV-105-F	RV-SG-39
RV-104-D1		RV-102-F	RV-101-L

9. This permit authorizes emissions from the shift converters and from the reformer for the following maintenance, start-up, and shutdown activities:

EPN	Source Name	Activity
SP-73	Shift Converters	Planned Maintenance
2-MAINT	Reformer	Planned Maintenance

These emissions are subject to the maximum allowable emission rates indicated on the MAERT. Any maintenance, start-up, and shutdown activities not in the above list are not authorized by this permit.

10. The flare shall be operated with no less than 98 percent efficiency in disposing of NH_3 captured by the collection system, and no less than 98 percent efficiency in disposing of the carbon compounds captured by the collection system.

11. The flare shall be designed and operated in accordance with 40 CFR § 60.18 including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring. If necessary to insure adequate combustion, sufficient fuel gas shall be added to make the gases combustible. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.

12. Vents V-1 and V-3 shall be routed to the primary reformer or to the flare for disposal in order to eliminate discharge of NH_3 to the atmosphere.

13. Tank truck and railcar loading operations shall take place under pressurized conditions with no vents releasing to the atmosphere. The loading lines shall be depressurized into a surge tank which will prevent the loss of this material to the atmosphere.

14. The hydrogen sulfide (H_2S) concentration in the fuel gas shall not exceed 0.3 gr/100 ft^3. Total sulfur (R-SH) concentration shall not exceed 5.0 gr/100 ft^3. The fuel gas shall be tested at least once per week for H_2S and R-SH concentrations. Records of the H_2S and R-SH concentrations shall be maintained and made available to TCEQ personnel upon request.

APPENDIX 2

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Ammonia Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (6)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
1	CO_2 Stripper Vent	CO	6.40	27.79
2	Reformer	CO	38.67	169.36
		NO_x	90.50	334.49
		PM	7.35	32.18
		PM_{10}	7.35	32.18
		$PM_{2.5}$	7.35	32.18
		SO_2	9.95	43.70
		VOC	5.32	23.29
3	Cooling Tower	Cl_2	0.20	0.72
		NH_3	8.00	35.03
T-4	aMDEA Storage Tank	VOC	0.81	0.01
H-5	Start-Up Heater (30 hours per year)	CO	1.48	0.02
		NO_x	1.76	0.03
		PM	0.13	0.01
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.13	0.01
		SO_2	0.26	0.01
		VOC	0.10	0.01
FU6	Fugitives (5)	NH_3	0.23	1.01

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU-CHLR	Fugitives (5)	NH_3	0.01	0.01
T-7	aMDEA Storage Tank	VOC	0.20	0.01
FL-1	Flare	CO	0.22	0.97
		NO_x	0.03	0.11
		SO_2	0.01	0.04
SP-73	Maintenance/Turnaround Emissions from Shift Converter Control Valves	CO	4000.	48.
2-MAINT	Maintenance/Turnaround Emissions from Reformer	CO	225.	2.7
		NO_x	250.	3.0

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3)
- Cl_2 - chlorine
- CO - carbon monoxide
- NH_3 - ammonia
- NO_X - total oxides of nitrogen
- PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
- PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
- $PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
- SO_2 - sulfur dioxide
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

APPENDIX 3

SPECIAL CONDITIONS

Urea Manufacturing Plant

Emission Limitations

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

   Emission limits for the facility are based on the following:

Source Name	Maximum Hourly Throughput (lbs)	Maximum 12-month Rolling Throughput (Tons)
Urea Melt Operations	36,545	146,180
Urea Prilling Operations	30,000	106,800
Urea Granules Operations	30,000	120,000

   No changes shall be made to the above limitations without prior approval by the Texas Commission on Environmental Quality (TCEQ).

Operational Requirements

2. The facility shall not operate the prill manufacturing process and the granules manufacturing process simultaneously.

3. Exterior belt conveyors shall be equipped with a cover. All other conveyors, bucket elevators, and dry fertilizer handling equipment located outside and not contained within a building shall be enclosed. These covers and enclosures are considered abatement equipment and shall be kept in good repair at all times.

4. All truck and rail loading chutes/spouts shall be equipped with drop socks, or the equivalent, at the drop point to minimize fugitive emissions from loadout areas. These socks shall be kept in good repair at all times.

5. Spillage of any prills or granules outside the storage warehouse shall be picked up and properly disposed of on a daily basis.

6. All in-plant roads, parking areas, and traffic areas shall consist of a non-dusty base material, be watered, treated with effective dust suppressant(s), and/or paved and cleaned as necessary to achieve maximum control of dust emissions.

7. The permit holder is limited to four maintenance events per rolling 12-month period, not to exceed two hours each in duration for EPN No. FL-2MAINT.

   This permit authorizes emissions from the urea plant flare (EPN FL-2MAINT), which are shown separately for planned maintenance, startup and shutdown (MSS) activities specified as follows:

   (1) maintenance for ammonia condensers;
   (2) plant shutdown and maintenance of carbamate separator;
   (3) maintenance of high pressure absorber overheads and associated equipment.

These planned maintenance, start-up, and shutdown activities are as follows:

1) Internal and external inspection
2) Replace gasket
3) Extended outage
4) Plug tube
5) Replace/repair tube
6) Clean-up
7) Replace/repair internals
8) Replace/repair relief valve
9) Replace process indicators
10) Replace/repair nozzle
11) Repair weld failure
12) Replace the vessel

Any maintenance, start-up, and shutdown activities not in the above list are not authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each maintenance activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

A. the physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;

B. the type of planned maintenance, startup, or shutdown activity and the reason for the planned activity;

C. the common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;

D. the date and time of the MSS activity and its duration;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the amendment application, PI-1 dated November 2005, consistent with good engineering practice.

8. Piping, Valves, Pumps, and Compressors in Ammonia (NH_3) Service

A. Audio, olfactory, and visual checks for anhydrous NH_3 leaks within the urea plant operating area, including the anhydrous NH_3 storage tank area, shall be made every four hours during regular rounds.

B. Immediately, but no later than five hours upon detection of a leak, plant personnel shall take the following actions:

(1) Identify the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

9. The prilling and granule operations shall each be controlled by a scrubber. Each scrubber shall be equipped with a dual mist eliminator system.

10. Cooling Towers Monitoring

The holder of this permit shall perform sampling and other testing on a monthly basis via Environmental Protection Agency Method 350.1 to establish the pound-per-hour emission rate of anhydrous NH_3 being emitted into the atmosphere from the cooling tower.

Faulty equipment shall be repaired at the earliest opportunity, but not later than the next scheduled shutdown of the process unit in which the leak occurs. Records of the monthly testing shall be maintained for a period of at least two years and made available to representatives of the TCEQ upon request.

11. Flare System for Relief Valves in NH_3 Service

Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) or ammonia at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC or ammonia at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

12. Flares shall be designed and operated in accordance with the following requirements:

A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the Title 40 Code of Federal Regulations (40 CFR) § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) or approved equivalent may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. The permit holder shall install an alarm in the control room to continuously monitor the flare operations.

C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

13. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf.

14. The following requirements apply to capture systems for the Prilling Tower Scrubber EPN No. 5 and Drum Granulation Scrubber EPN No. 6.

    A. If used for particulate control, complete either of the following once a year

        (1) Inspect any fan and verify proper operation and inspect the capture system to verify there are no cracks, holes, tears, and other defects once a year; or

        (2) Verify there are no fugitive emissions escaping from the capture system by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

    B. The control device shall not have a bypass, or, if there is a bypass for the control device, comply with either of the following requirements:

        (1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

        (2) Once a month, inspect the valves, verifying the position of the valves and the condition of the car seals prevent flow out the bypass.

        A deviation shall be reported if the monitoring or inspections indicate bypass of the control device.

    C. If any of the above inspections is not satisfactory, the permit holder shall promptly take necessary corrective action.

15. The Prilling Tower Scrubber (EPN No. 5) and Drum Granulation Scrubber (EPN No. 6) operations shall comply with the following requirements:

    The differential pressure across each scrubber shall be continuous monitored and be recorded at least once a day.

    The pressure drop shall be at least 3.5 inches of water.

    Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 1.0 inches water gauge pressure or 2.0 percent of span.

    The minimum liquid flow to the scrubber shall be 6.0 gpm The circulation discharge pressure shall be monitored and recorded at least once a day.

    The liquid flow rate shall be recorded at least once an hour.

    The flow monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value.

Quality-assured (or valid) data must be generated when the Prilling Tower Scrubber and Drum Granulation Scrubber is operating except during the performance of a daily zero check Loss of valid data due to periods of monitor breakdown, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the Prilling Tower Scrubber and Drum Granulation Scrubber operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Visible Emission Limitations

16. No visible emissions from the loadout area shall leave the property.

Recordkeeping Requirements

17. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

18. Records of a rolling 12-month period throughput shall be maintained at this facility.

APPENDIX 4

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Urea Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (8)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FL-2	Emergency Flare (Pilot)	CO	0.12	0.52
		NOx	0.01	0.06
		SO_2	0.01	0.01
FL-2MAINT	Emergency Flare (maintenance)	NH_3	186.32	0.75
		NOx	30.98	0.12
4b	Environmental - Scrubber	CO	0.91	4.00
		H_2	13.18	57.71
		NH_3	0.01	0.01
		PM	0.38	1.53
		PM_{10}	0.38	1.53
		$PM_{2.5}$	0.38	1.53
5	Prilling Tower - Scrubber(6)(7)	NH_3	6.56	23.35
		PM	13.90	49.50
		PM_{10}	12.24	43.57
		$PM_{2.5}$	12.24	43.57
		Formaldehyde	1.42	5.07
		Methanol	1.86	6.62

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
6	Drum Granulation - Scrubber(6)(7)	NH_3	16.21	64.82
		PM	7.29	29.15
		PM_{10}	0.18	0.69
		$PM_{2.5}$	0.18	0.69
		Formaldehyde	1.42	5.70
		Methanol	1.86	7.44
7	UF Storage Tank	Formaldehyde	0.3	0.01
		Methanol	0.09	0.01
FU1	Fugitive Emissions (conveyor transfer to warehouse)	PM	0.06	0.23
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU2A	Fugitive Emissions (bulk loading)	PM	0.30	1.20
		PM_{10}	0.30	1.20
		$PM_{2.5}$	0.30	1.20
FU2B	Fugitive Emissions (bulk loading warehouse fans-north)	PM	1.43	5.73
		PM_{10}	0.66	2.68
		$PM_{2.5}$	0.66	2.68
FU2C	Fugitive Emissions (bulk loading warehouse fans-south)	PM	1.43	5.73
		PM_{10}	0.66	2.68
		$PM_{2.5}$	0.66	2.68
FU2D	Fugitive Emissions (bulk loading warehouse door)	PM	0.32	1.27
		PM_{10}	0.15	0.60
		$PM_{2.5}$	0.15	0.60
FU3	Fugitive Emissions (from valves, flanges,pumps, and components)(5)	NH_3	0.06	0.25
		VOC	0.07	0.29

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
KOOL-1	Cooling Tower 1 (Fan 1)	Cl_2	0.07	0.31
		NH_3	0.73	3.21
KOOL-2	Cooling Tower 2 (Fan 1)	Cl_2	0.07	0.31
		NH_3	0.73	3.21

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) Cl_2 - chlorine
CO - carbon monoxide
H_2 - hydrogen
NH_3 - ammonia
NO_X - total oxides of nitrogen
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
SO_2 - sulfur dioxide

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) Prilling and granulation operations shall not occur simultaneously.

(7) Hazardous Air pollutant emissions do not exceed 10 ton per year of any one 25 ton per year of any combination of hazardous air pollutants.

(8) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

APPENDIX 5

SPECIAL CONDITIONS

Ammonia Manufacturing Plant

Emission Standards

1. Reserved.

2. There shall be no visible emissions from the Reformer, Emission Point No. (EPN) 2, with the exception of steam.

Continuous Demonstration of Compliance

3. Reserved.

4. The temperature of the reformer shall be recorded at least once every three hours. Records of the temperature shall be maintained at the plant site and made available to TCEQ personnel upon request.

   Neither ammonia (NH_3) nor NH_3-bearing gas shall be routed to the reformer until the reformer chamber temperature exceeds a minimum temperature of 1300°F.

5. Reserved.

6. Reserved.

Operational Practices

7. Production of NH_3 shall not exceed 1,600 tons per day. Cumulative records of TPY shall be maintained on a monthly basis. Records of the production rate (both daily and annual) covering the current calendar year and the two most recent complete calendar years shall be maintained at the plant site and made available to TCEQ personnel upon request.

8. Reserved.

9. Reserved.

10. Reserved.

11. Reserved.

12. Reserved.

13. Reserved.

14. Reserved.

Emission Standards - Addendum

15. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

Federal Applicability

16. These facilities shall comply with the following:

    A. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated for the following:

        (1) Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subparts A and Db.

        (2) Stationary Compression Ignition Internal Combustion Engines in 40 CFR Part 60, Subparts A and IIII.

    B. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories promulgated for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subparts A and ZZZZ.

Operational Limits

17. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide (H_2S) per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf. The fuel gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

Flares

18. The flares identified as EPNs FL-1, FL-2, FL-1MAINT, and FL-2MAINT shall be designed and operated in accordance with the following requirements:

    A. The flare systems shall be designed such that the stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

        The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

    B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed, at a frequency in accordance with, the manufacturer's specifications.

    C. The flares shall be operated with no less than 98 percent efficiency in disposing of NH_3 captured by the collection system, and no less than 98 percent efficiency in disposing of the carbon compounds captured by the collection system.

D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

E. The permit holder shall demonstrate that the Urea Emergency Flare, EPNs FL-2 or FL-2MAINT, meets at all times the minimum flared gas BTU content limit, as follows:

(1) The flare shall be equipped so that an unexpected release of gas to the flare automatically results in routing sufficient natural gas to the flare so that the combined stream meets the minimum flared gas BTU content limit.

(2) The flare shall be equipped and operated so that a planned release of gas to the flare does not take place until sufficient natural gas is routed to the flare so that that the combined stream meets the minimum flared gas BTU content limit.

(3) The permit holder shall maintain on site records of the flow rate and BTU content of gas released to the flare, together with the time of start and of end of such releases.

(4) The permit holder shall maintain on site records of the flow rate and BTU content of the natural gas routed to the flare, together with the time of start and of end of such natural gas routing.

Boiler

19. Emissions of NO_x, CO, and PM from the Package Boiler 1, EPN PKGB1, shall not exceed the following:

A. 0.01 lb NO_x/MMBtu on an hourly and annual average, controlled with ultra-low-NO_x burners and flue gas recirculation.

B. 0.04 lb CO/MMBtu on an hourly and annual average, controlled with good combustion practices.

C. 5% opacity, controlled with good combustion practices.

20. Reserved.

Storage Tanks

21. The storage tanks identified as EPNs UF-85 TNK**,** T-4, and 2061-MF are subject to the following requirements.

A. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12 month period for each tank.

C. Storage tank throughput and service shall be limited to the following:

Tank	Service	Fill/Withdrawal rate (gallons/hour)	Rolling 12 Month Throughput (gallons)
UF-85-TNK	VOC	2,700	1,033,725
T-4	VOC	9,000	15,000
2061-MF	Sulfuric Acid	9,000	200,000

D. All vents from the storage tank identified as EPN UF-85 TNK shall be routed to a carbon adsorption system (CAS).

E. The storage tank identified as EPN UF-85 TNK shall be equipped with a temperature gauge at the top and another at the bottom, to demonstrate that the stored liquid temperature does not exceed 130°F. The temperatures measured shall be recorded at least once per hour.

Loading of NH_3

22. Tank truck and railcar NH_3 loading operations shall take place under pressurized conditions with no vents releasing to the atmosphere. The loading lines shall be depressurized back into the process to prevent the loss of this material to the atmosphere.

23. Piping, Valves, Pumps, and Compressors in NH_3 Service (28AVO)

A. Audio, olfactory, and visual (AVO) checks for NH_3 leaks within the operating area shall be made every four hours by operators during regular rounds.

B. Immediately, but no later than four hours upon detection of a leak, plant personnel shall take at least one of the following actions as appropriate:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

C. Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made. These records shall be made available to representatives of the TCEQ upon request.

Initial Demonstration of Compliance

24. The permit holder shall perform stack sampling and other testing as follows:

A. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Package Boiler 1, EPN PKGB1, for CO, NO_X, PM, PM_{10}, $PM_{2.5}$, and VOC, at maximum firing rate and normal operating rate, to demonstrate compliance with the MAERT and with Special Condition No. 19.

B. Reserved.

C. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and EPA Reference Methods.

D. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

E. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.
(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
(7) Procedure and parameters to be used to determine worst case emissions during the sampling period.

F. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

G. Air contaminants emitted from EPNs PKGB1 and 6 to be tested for include, but are not limited to, those specified in A and B of this condition.

H. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the modified facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

I. The facility being sampled shall operate at the rate expected to cause maximum emissions for each air contaminate required to be tested during stack emission testing. These conditions and parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition or parameter range is identified in the test notice specified in E of this condition and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

J. During subsequent facility operations, if the test design parameters in I of this condition are greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

K. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

25. Sampling ports and platform(s) shall be incorporated into the design of EPNs PKGB1 and 6 according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities" of the TCEQ Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Continuous Demonstration of Compliance - Addendum

26. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of CO, NO_x, and oxygen (O_2) from the Reformer EPN 2 and from the Package Boiler 1, EPN PKGB1.

A. Each CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications No. 1 through 6, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ in Austin for requirements to be met.

B. Section (1) below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section (2) applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) Each system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of New Source Performance Standards (NSPS) or NESHAPS, in which case zero and span shall be done daily without exception.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of ±15 percent accuracy indicate that the CEMS is out of control.

C. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each source. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally-spaced data points from each one-hour period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of 40 CFR Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.

The measured hourly average concentration from the CEMS shall be multiplied by the measured exhaust gas flow rate to determine the hourly emission rate.

D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. All CGA exceedances of ±15 percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken.

Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

F. The appropriate TCEQ Regional Office shall be notified at least 15 days prior to each CGA in order to provide them the opportunity to observe the testing.

G. The emission rates of O_2, NO_x, and CO shall be manually recorded from the analyzers at least once per hour when the CEMS data acquisition system is not functioning.

H. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

I. Quality-assured (or valid) data must be generated when the Reformer EPN 2 and the boiler EPN PKGB1 are operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Reformer EPN 2 and the boiler EPN PKGB1 operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgement and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

Maintenance, Startup, and Shutdown

27. Ammonia Plant planned MSS activities are subject to the following:

A. This permit authorizes emissions from the Shift Converters, the Reformer, and the Ammonia Flare for the following maintenance, start-up, and shutdown activities:

EPN	Source Name	Activity
SP-73	Shift Converters	Planned Maintenance
2-MAINT	Reformer	Planned Maintenance
FL-1-MAINT	Ammonia Flare	Planned Maintenance

B. Planned maintenance activities associated with EPN SP-73 may not exceed 40 hours per year, on a rolling 12-month basis.

C. Planned maintenance activities associated with EPN 2-MAINT may not exceed 40 hours per year, on a rolling 12-month basis.

D. Planned maintenance activities associated with EPN FL-1-MAINT may not exceed 144 hours per year, on a rolling 12-month basis.

E. These emissions are subject to the maximum allowable emission rates indicated on the MAERT.

F. The holder of this permit shall keep records to demonstrate compliance with this permit condition.

Recordkeeping

28. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

29. Records of rolling 12-month period throughput shall be maintained at this facility.

APPENDIX 6

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Ammonia Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (6)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
2	Reformer	CO	38.67	169.36
		NO_x	90.50	334.49
		PM	7.35	32.18
		PM_{10}	7.35	32.18
		$PM_{2.5}$	7.35	32.18
		SO_2	9.95	43.70
		VOC	5.32	23.29
1	CO_2 Stripper Vent	CO	6.40	27.79
T-4	aMDEA Storage Tank	VOC	0.01	0.01
2-MAINT	Reformer Maintenance	CO	225.00	4.50
		NO_X	250.00	5.00
H-5	Start-Up Heater	CO	1.48	0.02
		NO_X	1.76	0.03
		PM	0.13	0.01
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.13	0.01
		SO_2	0.26	0.01
		VOC	0.10	0.01
FU6	Fugitives	NH_3	0.23	1.01

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU-CHLR	Fugitives	NH_3	0.01	0.01
T-7	aMDEA Storage Tank	VOC	0.20	0.01
SP-73	Shift Converters	CO	3007.81	60.16
FL-1	Ammonia Emergency Flare	CO	0.26	1.16
		NO_X	0.03	0.13
		SO_2	0.01	0.04
		VOC	0.01	0.01
FL-1MAINT	Ammonia Emergency Flare (maintenance)	NH_3	0.69	0.18
		NO_X	0.09	0.02
PKGB1	Package Boiler 1	CO	9.60	42.05
		NO_X	2.40	10.51
		PM	1.79	7.83
		PM_{10}	1.69	7.42
		$PM_{2.5}$	1.54	6.76
		SO_2	0.28	1.22
		VOC	1.29	5.67

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3)

Cl_2	-	chlorine
CO	-	carbon monoxide
NH_3	-	ammonia
NO_X	-	total oxides of nitrogen
PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10}	-	total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$	-	particulate matter equal to or less than 2.5 microns in diameter
SO_2	-	sulfur dioxide
VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

APPENDIX 7

SPECIAL CONDITIONS

Urea Manufacturing Plant

Emission Limitations

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

   Emission limits for the facility are based on the following:

Source Name	Maximum Hourly Throughput (lbs)	Maximum 12-month Rolling Throughput (Tons)
Urea Melt Operations	36,545	146,180
Urea Prilling Operations	30,000	106,800
Urea Granules Operations	30,000	120,000

   No changes shall be made to the above limitations without prior approval by the Texas Commission on Environmental Quality (TCEQ).

Operational Requirements

2. The facility shall not operate the prill manufacturing process and the granules manufacturing process simultaneously.

3. Reserved.

4. Reserved.

5. Reserved.

6. Reserved.

7. The permit holder is limited to four maintenance events per rolling 12-month period, not to exceed two hours each in duration for Emission Point No. (EPN) No. FL-2MAINT.

   This permit authorizes emissions from the urea plant flare (EPN FL-2MAINT), which are shown separately for planned maintenance, startup and shutdown (MSS) activities specified as follows:

   (1) maintenance for ammonia condensers;
   (2) plant shutdown and maintenance of carbamate separator;
   (3) maintenance of high pressure absorber overheads and associated equipment.

   These planned maintenance, start-up, and shutdown activities are as follows:

   1) Internal and external inspection
   2) Replace gasket
   3) Extended outage
   4) Plug tube
   5) Replace/repair tube

6) Clean-up
7) Replace/repair internals
8) Replace/repair relief valve
9) Replace process indicators
10) Replace/repair nozzle
11) Repair weld failure
12) Replace the vessel

Any maintenance, start-up, and shutdown activities not in the above list are not authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each maintenance activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

A. the physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;

B. the type of planned maintenance, startup, or shutdown activity and the reason for the planned activity;

C. the common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;

D. the date and time of the MSS activity and its duration;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the amendment application, PI-1 dated November 2005, consistent with good engineering practice.

8. Piping, Valves, Pumps, and Compressors in Ammonia (NH_3) Service

A. Audio, olfactory, and visual checks for anhydrous NH_3 leaks within the urea plant operating area, including the anhydrous NH_3 storage tank area, shall be made every four hours during regular rounds.

B. Immediately, but no later than five hours upon detection of a leak, plant personnel shall take the following actions:

(1) Identify the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

9. Reserved.

10. Reserved.

11. Flare System for Relief Valves in NH_3 Service

Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) or ammonia at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC or ammonia at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

12. Flares shall be designed and operated in accordance with the following requirements:

A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the Title 40 Code of Federal Regulations (40 CFR) § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) or approved equivalent may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. The permit holder shall install an alarm in the control room to continuously monitor the flare operations.

C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

13. Reserved.

14. The following requirements apply to capture systems for the Prilling Tower Scrubber EPN No. 5 and Drum Granulation Scrubber EPN No. 6.

A. If used for particulate control, complete either of the following once a year

(1) Inspect any fan and verify proper operation and inspect the capture system to verify there are no cracks, holes, tears, and other defects once a year; or

(2) Verify there are no fugitive emissions escaping from the capture system by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

B. The control device shall not have a bypass, or, if there is a bypass for the control device, comply with either of the following requirements:

(1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

(2) Once a month, inspect the valves, verifying the position of the valves and the condition of the car seals prevent flow out the bypass.

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device.

C. If any of the above inspections is not satisfactory, the permit holder shall promptly take necessary corrective action.

15. The Prilling Tower Scrubber (EPN No. 5) and Drum Granulation Scrubber (EPN No. 6) operations shall comply with the following requirements:

The differential pressure across each scrubber shall be continuous monitored and be recorded at least once a day.

The pressure drop shall be at least 3.5 inches of water.

Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 1.0 inches water gauge pressure or 2.0 percent of span.

The minimum liquid flow to the scrubber shall be 6.0 gpm The circulation discharge pressure shall be monitored and recorded at least once a day.

The liquid flow rate shall be recorded at least once an hour.

The flow monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value.

Quality-assured (or valid) data must be generated when the Prilling Tower Scrubber and Drum Granulation Scrubber is operating except during the performance of a daily zero check Loss of valid data due to periods of monitor breakdown, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the Prilling Tower Scrubber and Drum Granulation Scrubber operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

16. Reserved.

17. Reserved.

18. Reserved.

Emission Standards

19. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing ammonia (NH_3) or volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions with the exception of the relief valves in natural gas service listed below:

RV-101-D	RV-104-D1A	RV-101-E	RV-NG-22
RV-102-D	RV-104-D2	RV-104-F	RV-FG-3
RV-110-D	RV-109-D	RV-105-F	RV-SG-39
RV-104-D1	RV-102-F	RV-101-L	

Federal Applicability

20. These facilities shall comply with the following:

    A. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated for the following:

        (1) Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subparts A and Db.

        (2) Stationary Compression Ignition Internal Combustion Engines in 40 CFR Part 60, Subparts A and IIII.

    B. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories promulgated for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subparts A and ZZZZ.

Operational Limits

21. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide (H_2S) per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf. The fuel gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

Cooling Towers

22. The cooling towers identified as EPNs COOL-1 and COOL-2 shall be subject to the following conditions:

    A. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method 350.1NS for ammonia nitrogen in water.

B. As an alternative to the monitoring method required in A of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method 350.1NS, provided that he previously obtains written approval from the TCEQ Air Permits Division.

C. The holder of this permit shall perform sampling and other testing as necessary to establish the pounds per hour of NH_3 being emitted into the atmosphere from the cooling towers associated with this permit. All sampling and testing methods, prior to their implementation, shall be subject to approval of the TCEQ Executive Director under A or B of this condition. The concentration (ppmv) of NH_3 in the exhaust from the sampling and the corresponding pounds of strippable NH_3/gallon of cooling water shall be recorded. These will be used to determine the level (either ppmv or lb NH_3/gal) at which a leak into cooling water will be assumed in the ongoing monitoring program. Within 30 days after completion of all sampling used to determine this assumed leak level, copies of the test report shall be submitted to the TCEQ Air Permits Division and the TCEQ Amarillo Regional Office.

D. The NH_3 associated with cooling tower water shall be monitored monthly with the EPA Method 350.1NS or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive NH_3 emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded. The records shall be made available to the TCEQ Executive Director or his designated representative upon request.

E. The cooling water shall be sampled once a week for total dissolved solids (TDS) and once a day for conductivity. Dissolved solids in the cooling water drift are considered to be emitted as particulate matter (PM) ≤ 10 microns diameter (PM_{10}). The data shall result from collection of water samples from the cooling tower feed water and represent the water being cooled in the tower. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. The analysis method for Conductivity shall be ASTM D1125-95A and SM2510 B. Use of an alternative method shall be approved by the TCEQ Air Permits Division prior to its implementation.

F. The cooling towers shall operate with drift eliminators that achieve less than or equal to 0.001 percent drift.

G. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method SM 4500-Cl G-93 for chlorine in water.

H. As an alternative to the monitoring method required in G of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method SM 4500-Cl G-93, provided that he previously obtains written approval from the TCEQ Air Permits Division.

Storage Tanks

23. The storage tanks identified as EPNs UF-85 TNK**,** T-4, and 2061-MF are subject to the following requirements.

A. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12 month period for each tank.

C. Storage tank throughput and service shall be limited to the following:

Tank	Service	Fill/Withdrawal rate (gallons/hour)	Rolling 12 Month Throughput (gallons)
UF-85-TNK	VOC	2,700	1,033,725
T-4	VOC	9,000	15,000
2061-MF	Sulfuric Acid	9,000	200,000

D. All vents from the storage tank identified as EPN UF-85 TNK shall be routed to a carbon adsorption system (CAS).

E. The storage tank identified as EPN UF-85 TNK shall be equipped with a temperature gauge at the top and another at the bottom, to demonstrate that the stored liquid temperature does not exceed 130°F. The temperatures measured shall be recorded at least once per hour.

Carbon Adsorption System

24. The storage tank identified as EPN UF-85TNK shall vent through a CAS consisting of at least two activated carbon canisters that are connected in series and which shall comply with the following:

A. The CAS shall be sampled to determine breakthrough of VOC. The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. When the tank is being filled, sampling shall be performed within 15 minutes of start of filling and at least once every hour after that. When the tank is not being filled, sampling shall be performed between 1:00 PM and 5:00 PM at least once every seven days.

B. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a TCEQ-approved alternative detector. The instrument/FID must meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis for VOC breakthrough shall be performed as follows:

(1) Immediately prior to performing sampling, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. Span calibration gas shall be formaldehyde at a concentration within ± 10 percent of 20 ppmv, and certified by the manufacturer to be ± 2 percent accurate. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.

(2) The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sample ports or connections must be designed such that air leakage into the sample port does not occur during sampling.

(3) During sampling, data recording shall not begin until after two times the instrument response time. The VOC concentration shall be monitored for at least 5 minutes, recording 1-minute averages.

C. Breakthrough shall be defined as the highest 1 minute average measured VOC concentration at or exceeding 20 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within one hour when the tank is being filled or within seven days when the tank is not being filled. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.

D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

(1) Sample time and date.
(2) Monitoring results (ppmv).
(3) Corrective action taken including the time and date of that action.
(4) Process operations occurring at the time of sampling.

E. Alternate monitoring or sampling requirements that are equivalent or better may be approved by the TCEQ Regional Manager or the TCEQ Regulatory Compliance Section Manager. Alternate requirements must be approved in writing before they can be used for compliance purposes.

25. Visual inspection for carbon build up around the stack shall occur once a week. If carbon build up is noticed, it shall be recorded, the CAS shall be shut down, and corrective action shall be taken in accordance with the system maintenance manual.

<u>Baghouses</u>

26. Emissions controlled with a baghouse shall be subject to the following conditions:

A. Material handling baghouses, designed to meet an emission limit of 0.01 grains PM per dry standard cubic foot of exhaust or 99 percent removal efficiency, properly installed and in good working order, shall control PM, $PM_{10,}$ and PM ≤ 2.5 microns diameter ($PM_{2.5}$) emissions from the following sources:

EPN	Source
FU4A	Conveyor Transfer to Warehouse
FU5B	Material Drop
FU5C	Reclaimer
FU4B	Conveyor Transfer to Prescreening
FU6A	Screening
FU5A-RC	Railcar Load-Out
FU5A-TR	Truck Load-Out
SC-100	Prescreening to Baghouse
SC-101	Warehouse to Baghouse
SC-102	Rail and Truck Loadout to Baghouse

B. Opacity of emissions from any single fabric filter baghouse stack listed in A of this condition shall not exceed 5 percent averaged over a six-minute period. Determination of compliance with this requirement shall be made by first observing for visible emissions during normal plant operations. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from the emission point, opacity shall be determined using the U.S. EPA Title 40 Code of Federal Regulations (40 CFR) Part 60, Appendix A, TM 9. Contributions from uncombined water vapor shall not be included in determining compliance with this condition. Determination of compliance with this requirement shall be performed and the results recorded monthly.

C. The holder of this permit shall install, calibrate, and maintain a device to monitor and record pressure drop in each baghouse. The monitoring device shall be calibrated in accordance with the manufacturer's specifications at least annually and shall be accurate to within a range of ± 0.5 inches water gauge pressure (± 125 pascals); or ± 0.5% of span. Pressure drop readings shall be recorded at least once per day during baghouse operations.

Solids Handling

27. The prilling operations in EPN 5 shall be controlled by a scrubber. The scrubber shall be equipped with a dual mist eliminator system.

28. Visible emissions shall be controlled with the following practices:

A. Exterior belt conveyors shall be equipped with a cover. All other conveyors, bucket elevators, and dry fertilizer handling equipment located outside and not contained within a building shall be enclosed. These covers and enclosures are considered abatement equipment and shall be kept in good repair at all times.

B. All truck and rail loading chutes/spouts shall be equipped with drop socks, or the equivalent, at the drop point to minimize fugitive emissions from loadout areas. These socks shall be kept in good repair at all times. Truck and rail loading facilities constructed after October 1, 2013 shall be equipped with retractable spouts equipped with a vacuum system to collect PM_{10} and route it to a baghouse.

C. Spillage of any prills or granules outside the storage warehouses shall be picked up and properly disposed of on a daily basis.

D. All in-plant roads, parking areas, and traffic areas shall consist of a non-dusty base material, be watered, treated with effective dust suppressant(s), and/or paved and cleaned as necessary to achieve maximum control of dust emissions.

E. No visible emissions from the loadout areas shall leave the property.

Compliance Assurance Monitoring (CAM)

29. The following requirements apply to the capture systems for the Prilling Tower Scrubber, EPN 5; the Granulation Scrubber System, EPN 6; the Prescreening to Baghouse, EPN SC-100; the Warehouse to Baghouse, EPN SC-101; and the Rail and Truck Loadout to Baghouse, EPN SC-102:

    A. Each capture system for each EPN shall comply at least once a year with one of the following:

        (1) Inspect any fan and verify proper operation and inspect the capture system to verify there are no cracks, holes, tears, and other defects; or

        (2) Verify there are no fugitive emissions escaping from the capture system by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

    B. The control device shall not have a bypass.

    C. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when required to be in service under this permit.

    D. If any of the inspections under A of this condition is not satisfactory, the permit holder shall promptly take necessary corrective action. Records shall be maintained documenting the performance and results of the inspections required in this condition.

Recordkeeping

30. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

31. Records of rolling 12-month period throughput shall be maintained at this facility.

APPENDIX 8

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Urea Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (8)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FL-2	Emergency Flare (Pilot)	CO	0.12	0.52
		NOx	0.01	0.06
		SO_2	0.01	0.01
FL-2MAINT	Emergency Flare (maintenance)	NH_3	186.32	0.75
		NOx	30.98	0.12
4b	Environmental - Scrubber	CO	0.91	4.00
		H_2	13.18	57.71
		NH_3	0.01	0.01
		PM	0.38	1.53
		PM_{10}	0.38	1.53
		$PM_{2.5}$	0.38	1.53
6	Drum Granulation - Scrubber(6)(7)	NH_3	16.21	64.82
		PM	7.29	29.15
		PM_{10}	0.18	0.69
		$PM_{2.5}$	0.18	0.69
		Formaldehyde	1.42	5.70
		Methanol	1.86	7.44
UF-85 TNK	UF-85 Storage Tank	VOC	0.02	0.05

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU1	Fugitive Emissions - Conveyor	PM	0.06	0.23
		PM_{10}	0.01	0.01
FU2A	Fugitive Emissions - Bulk Loading	PM	0.12	0.43
		PM_{10}	0.12	0.43
		$PM_{2.5}$	0.12	0.43
FU2B	Fugitive Emissions - Bulk Handling North Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2C	Fugitive Emissions - Bulk Handling South Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2D	Fugitive Emissions - Bulk Handling Door	PM	0.01	0.05
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
FU3	Fugitive Emissions - Piping	NH_3	0.22	0.95
FU4A	Conveyor Transfer to New Warehouse	PM	0.03	0.11
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.01
FU5B	Material Drop	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU5C	Reclaimer	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU4B	Conveyor Transfer to Prescreening	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU6A	Screening	PM	0.03	0.11
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03
FU5A-RC	Railcar Load-Out	PM	0.01	0.06
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.01
FU5A-TR	Truck Load-Out	PM	0.07	0.29
		PM_{10}	0.03	0.14
		$PM_{2.5}$	0.01	0.02
SC-100	Prescreening to Baghouse	PM	0.64	2.82
		PM_{10}	0.55	2.39
		$PM_{2.5}$	0.19	0.85
SC-101	Warehouse to Baghouse	PM	0.99	4.33
		PM_{10}	0.84	3.68
		$PM_{2.5}$	0.30	1.30
SC-102	Rail and Truck Loadout to Baghouse	PM	1.50	6.57
		PM_{10}	1.28	5.59
		$PM_{2.5}$	0.45	1.97

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
COOL-1	Cooling Tower - Ammonia	Cl_2	0.03	0.15
		NH_3	1.65	7.24
		PM	1.01	4.41
		PM_{10}	0.21	0.92
		$PM_{2.5}$	0.01	0.01
COOL-2	Cooling Tower - Urea	Cl_2	0.01	0.01
		NH_3	0.18	0.80
		PM	0.07	0.30
		PM_{10}	0.06	0.28
		$PM_{2.5}$	0.01	0.01
5	Prilling Tower Scrubber	NH_3	6.56	23.35
		PM	13.90	49.50
		PM_{10}	12.24	43.57
		VOC	3.28	11.69
2061-MF	Sulfuric Acid Storage Tank	H_2SO_4	0.01	0.01

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3)

Cl_2	-	chlorine
CO	-	carbon monoxide
H_2	-	hydrogen
H_2SO_4	-	sulfuric acid
NH_3	-	ammonia
NO_X	-	total oxides of nitrogen
PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10}	-	total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$	-	particulate matter equal to or less than 2.5 microns in diameter
SO_2	-	sulfur dioxide

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) Prilling and granulation operations shall not occur simultaneously.

(7) Hazardous Air pollutant emissions do not exceed 10 ton per year of any one 25 ton per year of any combination of hazardous air pollutants.

(8) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

APPENDIX 9

SPECIAL CONDITIONS

Ammonia Manufacturing Plant

Emission Standards

1. Reserved.

2. There shall be no visible emissions from the Reformer, Emission Point No. (EPN) 2, with the exception of steam.

Continuous Demonstration of Compliance

3. Reserved.

4. The temperature of the reformer shall be recorded at least once every three hours. Records of the temperature shall be maintained at the plant site and made available to TCEQ personnel upon request.

   Neither ammonia (NH_3) nor NH_3-bearing gas shall be routed to the reformer until the reformer chamber temperature exceeds a minimum temperature of 1300°F.

Leak Detection and Repair Program

5. Reserved.

6. Reserved.

Operational Practices

7. Production of NH_3 shall not exceed 1,600 tons per day. Cumulative records of TPY shall be maintained on a monthly basis. Records of the production rate (both daily and annual) covering the current calendar year and the two most recent complete calendar years shall be maintained at the plant site and made available to Texas Commission on Environmental Quality (TCEQ) personnel upon request.

8. Reserved.

9. Reserved.

10. Reserved.

11. Reserved.

12. Reserved.

13. Reserved.

14. Reserved.

Emission Standards - Addendum

15. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

Federal Applicability

16. These facilities shall comply with the following:

    A. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated for the following:

        (1) Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subparts A and Db.

        (2) Stationary Compression Ignition Internal Combustion Engines in 40 CFR Part 60, Subparts A and IIII.

    B. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories promulgated for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subparts A and ZZZZ.

Operational Limits

17. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide (H_2S) per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf. The fuel gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

Flares

18. The flares identified as EPNs FL-1, FL-2, FL-1MAINT, and FL-2MAINT shall be designed and operated in accordance with the following requirements:

    A. The flare systems shall be designed such that the stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

        The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed, at a frequency in accordance with, the manufacturer's specifications.

C. The flares shall be operated with no less than 98 percent efficiency in disposing of NH_3 captured by the collection system, and no less than 98 percent efficiency in disposing of the carbon compounds captured by the collection system.

D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

E. The permit holder shall demonstrate that the Urea Emergency Flare, EPNs FL-2 or FL-2MAINT, meets at all times the minimum flared gas BTU content limit, as follows:

(1) The flare shall be equipped so that an unexpected release of gas to the flare automatically results in routing sufficient natural gas to the flare so that the combined stream meets the minimum flared gas BTU content limit.

(2) The flare shall be equipped and operated so that a planned release of gas to the flare does not take place until sufficient natural gas is routed to the flare so that that the combined stream meets the minimum flared gas BTU content limit.

(3) The permit holder shall maintain on site records of the flow rate and BTU content of gas released to the flare, together with the time of start and of end of such releases.

(4) The permit holder shall maintain on site records of the flow rate and BTU content of the natural gas routed to the flare, together with the time of start and of end of such natural gas routing.

Boiler

19. Emissions of NO_x, CO, and PM from the Package Boiler 1, EPN PKGB1, shall not exceed the following:

A. 0.01 lb NO_x/MMBtu on an hourly and annual average, controlled with ultra-low-NO_x burners and flue gas recirculation.

B. 0.04 lb CO/MMBtu on an hourly and annual average, controlled with good combustion practices.

C. 5% opacity, controlled with good combustion practices.

20. Reserved.

Storage Tanks

21. The storage tanks identified as EPNs UF-85 TNK**,** T-4, and 2061-MF are subject to the following requirements.

A. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

B. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12 month period for each tank.

C. Storage tank throughput and service shall be limited to the following:

Tank	Service	Fill/Withdrawal rate (gallons/hour)	Rolling 12 Month Throughput (gallons)
UF-85-TNK	VOC	2,700	1,033,725
T-4	VOC	9,000	15,000
2061-MF	Sulfuric Acid	9,000	200,000

D. All vents from the storage tank identified as EPN UF-85 TNK shall be routed to a carbon adsorption system (CAS).

E. The storage tank identified as EPN UF-85 TNK shall be equipped with a temperature gauge at the top and another at the bottom, to demonstrate that the stored liquid temperature does not exceed 130°F. The temperatures measured shall be recorded at least once per hour.

Loading of NH_3

22. Tank truck and railcar NH_3 loading operations shall take place under pressurized conditions with no vents releasing to the atmosphere. The loading lines shall be depressurized back into the process to prevent the loss of this material to the atmosphere.

23. Piping, Valves, Pumps, and Compressors in NH_3 Service (28AVO)

A. Audio, olfactory, and visual (AVO) checks for NH_3 leaks within the operating area shall be made every four hours by operators during regular rounds.

B. Immediately, but no later than four hours upon detection of a leak, plant personnel shall take at least one of the following actions as appropriate:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

C. Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made. These records shall be made available to representatives of the TCEQ upon request.

Initial Demonstration of Compliance

24. The permit holder shall perform stack sampling and other testing as follows:

A. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Package Boiler 1, EPN PKGB1, for CO, NO_x, PM, PM_{10}, $PM_{2.5}$, and VOC, at maximum firing rate and normal operating rate, to demonstrate compliance with the MAERT and with SC No. 19.

B. Reserved.

C. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and EPA Reference Methods.

D. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

E. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.
(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
(7) Procedure and parameters to be used to determine worst case emissions during the sampling period.

F. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

G. Air contaminants emitted from EPNs PKGB1 and 6 to be tested for include, but are not limited to, those specified in A and B of this condition.

H. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the modified facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

I. The facility being sampled shall operate at the rate expected to cause maximum emissions for each air contaminate required to be tested during stack emission testing. These conditions and parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition or parameter range is identified in the test notice specified in E of this condition and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

J. During subsequent facility operations, if the test design parameters in I of this condition are greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

K. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

25. Sampling ports and platform(s) shall be incorporated into the design of EPNs PKGB1 and 6 according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities" of the TCEQ Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Continuous Demonstration of Compliance - Addendum

26. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of CO, NO_x, and oxygen (O_2) from the Reformer EPN 2 and from the Package Boiler 1, EPN PKGB1.

A. Each CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specifications No. 1 through 6, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ in Austin for requirements to be met.

B. Section (1) below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section (2) applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) Each system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of New Source Performance Standards (NSPS) or NESHAPS, in which case zero and span shall be done daily without exception.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of $\pm$15 percent accuracy indicate that the CEMS is out of control.

C. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each source. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally-spaced data points from each one-hour period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of 40 CFR Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.

The measured hourly average concentration from the CEMS shall be multiplied by the measured exhaust gas flow rate to determine the hourly emission rate.

D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. All CGA exceedances of ±15 percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken.

Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

F. The appropriate TCEQ Regional Office shall be notified at least 15 days prior to each CGA in order to provide them the opportunity to observe the testing.

G. The emission rates of O_2, NO_x, and CO shall be manually recorded from the analyzers at least once per hour when the CEMS data acquisition system is not functioning.

H. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

I. Quality-assured (or valid) data must be generated when the Reformer EPN 2 and the boiler EPN PKGB1 are operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Reformer EPN 2 and the boiler EPN PKGB1 operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgement and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

Maintenance, Startup, and Shutdown

27. Ammonia Plant planned MSS activities are subject to the following:

A. This permit authorizes emissions from the Shift Converters, the Reformer, and the Ammonia Flare for the following maintenance, start-up, and shutdown activities:

EPN	Source Name	Activity
SP-73	Shift Converters	Planned Maintenance
2-MAINT	Reformer	Planned Maintenance
FL-1-MAINT	Ammonia Flare	Planned Maintenance

B. Planned maintenance activities associated with EPN SP-73 may not exceed 40 hours per year, on a rolling 12-month basis.

C. Planned maintenance activities associated with EPN 2-MAINT may not exceed 40 hours per year, on a rolling 12-month basis.

D. Planned maintenance activities associated with EPN FL-1-MAINT may not exceed 144 hours per year, on a rolling 12-month basis.

E. These emissions are subject to the maximum allowable emission rates indicated on the MAERT.

F. The holder of this permit shall keep records to demonstrate compliance with this permit condition.

Recordkeeping

28. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

29. Records of rolling 12-month period throughput shall be maintained at this facility.

APPENDIX 10

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Ammonia Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (6)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
2	Reformer	CO	38.67	169.36
		NO_x	90.50	334.49
		PM	7.35	32.18
		PM_{10}	7.35	32.18
		$PM_{2.5}$	7.35	32.18
		SO_2	9.95	43.70
		VOC	5.32	23.29
1	CO_2 Stripper Vent	CO	6.40	27.79
T-4	aMDEA Storage Tank	VOC	0.01	0.01
2-MAINT	Reformer Maintenance	CO	225.00	4.50
		NO_X	250.00	5.00
H-5	Start-Up Heater	CO	1.48	0.02
		NO_X	1.76	0.03
		PM	0.13	0.01
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.13	0.01
		SO_2	0.26	0.01
		VOC	0.10	0.01
FU6	Fugitives	NH_3	0.23	1.01

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU-CHLR	Fugitives	NH_3	0.01	0.01
T-7	aMDEA Storage Tank	VOC	0.20	0.01
SP-73	Shift Converters	CO	3007.81	60.16
FL-1	Ammonia Emergency Flare	CO	0.26	1.16
		NO_X	0.03	0.13
		SO_2	0.01	0.04
		VOC	0.01	0.01
FL-1MAINT	Ammonia Emergency Flare (maintenance)	NH_3	0.69	0.18
		NO_X	0.09	0.02
PKGB1	Package Boiler 1	CO	9.60	42.05
		NO_X	2.40	10.51
		PM	1.79	7.83
		PM_{10}	1.69	7.42
		$PM_{2.5}$	1.54	6.76
		SO_2	0.28	1.22
		VOC	1.29	5.67

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3)

Cl_2	-	chlorine
CO	-	carbon monoxide
NH_3	-	ammonia
NO_X	-	total oxides of nitrogen
PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10}	-	total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$	-	particulate matter equal to or less than 2.5 microns in diameter
SO_2	-	sulfur dioxide
VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

APPENDIX 11

SPECIAL CONDITIONS

Urea Manufacturing Plant

1. Reserved.

Operational Requirements

2. Reserved.

3. Reserved.

4. Reserved.

5. Reserved.

6. Reserved.

7. Reserved.

8. Piping, Valves, Pumps, and Compressors in Ammonia (NH_3) Service

   A. Audio, olfactory, and visual checks for anhydrous NH_3 leaks within the urea plant operating area, including the anhydrous NH_3 storage tank area, shall be made every four hours during regular rounds.

   B. Immediately, but no later than five hours upon detection of a leak, plant personnel shall take the following actions:

      (1) Identify the leak.

      (2) Commence repair or replacement of the leaking component.

      (3) Use a leak collection/containment system to prevent escape of the leak to the atmosphere until repair or replacement can be made if immediate repair is not possible.

9. Reserved.

10. Reserved.

11. Reserved.

12. Reserved.

13. Reserved.

14. Reserved.

15. Reserved.

16. Reserved.

17. Reserved.

18. Reserved.

Emission Standards

19. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing ammonia (NH_3) or volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions with the exception of the relief valves in natural gas service listed below:

RV-101-D	RV-104-D1A	RV-101-E	RV-NG-22
RV-102-D	RV-104-D2	RV-104-F	RV-FG-3
RV-110-D	RV-109-D	RV-105-F	RV-SG-39
RV-104-D1	RV-102-F	RV-101-L	

Federal Applicability

20. These facilities shall comply with the following:

    A. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated for the following:

        (1) Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subparts A and Db.

        (2) Stationary Compression Ignition Internal Combustion Engines in 40 CFR Part 60, Subparts A and IIII.

    B. These facilities shall comply with all applicable requirements of EPA regulations on National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories promulgated for Stationary Reciprocating Internal Combustion Engines in 40 CFR Part 63, Subparts A and ZZZZ.

Operational Limits

21. Fuel gas combusted at this facility shall be pipeline-quality natural gas containing no more than 0.25 grain of hydrogen sulfide (H_2S) per 100 dry standard cubic feet (dscf) and no more than 5 grains of total sulfur per 100 dscf. The fuel gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

Cooling Towers

22. The cooling towers identified as EPNs COOL-1 and COOL-2 shall be subject to the following conditions:

A. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method 350.1NS for ammonia nitrogen in water.

B. As an alternative to the monitoring method required in A of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method 350.1NS, provided that he previously obtains written approval from the TCEQ Air Permits Division.

C. The holder of this permit shall perform sampling and other testing as necessary to establish the pounds per hour of NH_3 being emitted into the atmosphere from the cooling towers associated with this permit. All sampling and testing methods, prior to their implementation, shall be subject to approval of the TCEQ Executive Director under A or B of this condition. The concentration (ppmv) of NH_3 in the exhaust from the sampling and the corresponding pounds of strippable NH_3/gallon of cooling water shall be recorded. These will be used to determine the level (either ppmv or lb NH_3/gal) at which a leak into cooling water will be assumed in the ongoing monitoring program. Within 30 days after completion of all sampling used to determine this assumed leak level, copies of the test report shall be submitted to the TCEQ Air Permits Division and the TCEQ Amarillo Regional Office.

D. The NH_3 associated with cooling tower water shall be monitored monthly with the EPA Method 350.1NS or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive NH_3 emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded. The records shall be made available to the TCEQ Executive Director or his designated representative upon request.

E. The cooling water shall be sampled once a week for total dissolved solids (TDS) and once a day for conductivity. Dissolved solids in the cooling water drift are considered to be emitted as particulate matter (PM) ≤ 10 microns diameter (PM_{10}). The data shall result from collection of water samples from the cooling tower feed water and represent the water being cooled in the tower. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. The analysis method for Conductivity shall be ASTM D1125-95A and SM2510 B. Use of an alternative method shall be approved by the TCEQ Air Permits Division prior to its implementation.

F. The cooling towers shall operate with drift eliminators that achieve less than or equal to 0.001 percent drift.

G. The holder of this permit shall perform monthly cooling tower water monitoring using the EPA Method SM 4500-Cl G-93 for chlorine in water.

H. As an alternative to the monitoring method required in G of this condition, the holder of this permit may use an alternate method equivalent to the use of the EPA Method SM 4500-Cl G-93, provided that he previously obtains written approval from the TCEQ Air Permits Division.

Storage Tanks

23. The storage tanks identified as EPNs UF-85 TNK, T-4, and 2061-MF are subject to the following requirements.

    A. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

    B. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12 month period for each tank.

    C. Storage tank throughput and service shall be limited to the following:

Tank	Service	Fill/Withdrawal rate (gallons/hour)	Rolling 12 Month Throughput (gallons)
UF-85-TNK	VOC	2,700	1,033,725
T-4	VOC	9,000	15,000
2061-MF	Sulfuric Acid	9,000	200,000

    D. All vents from the storage tank identified as EPN UF-85 TNK shall be routed to a carbon adsorption system (CAS).

    E. The storage tank identified as EPN UF-85 TNK shall be equipped with a temperature gauge at the top and another at the bottom, to demonstrate that the stored liquid temperature does not exceed 130°F. The temperatures measured shall be recorded at least once per hour.

Carbon Adsorption System

24. The storage tank identified as EPN UF-85TNK shall vent through a CAS consisting of at least two activated carbon canisters that are connected in series and which shall comply with the following:

    A. The CAS shall be sampled to determine breakthrough of VOC. The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. When the tank is being filled, sampling shall be performed within 15 minutes of start of filling and at least once every hour after that. When the tank is not being filled, sampling shall be performed between 1:00 PM and 5:00 PM at least once every seven days.

    B. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a TCEQ-approved alternative detector. The instrument/FID must meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis for VOC breakthrough shall be performed as follows:

(1) Immediately prior to performing sampling, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. Span calibration gas shall be formaldehyde at a concentration within ± 10 percent of 20 ppmv, and certified by the manufacturer to be ± 2 percent accurate. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.

(2) The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sample ports or connections must be designed such that air leakage into the sample port does not occur during sampling.

(3) During sampling, data recording shall not begin until after two times the instrument response time. The VOC concentration shall be monitored for at least 5 minutes, recording 1-minute averages.

C. Breakthrough shall be defined as the highest 1 minute average measured VOC concentration at or exceeding 20 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within one hour when the tank is being filled or within seven days when the tank is not being filled. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.

D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

(1) Sample time and date.
(2) Monitoring results (ppmv).
(3) Corrective action taken including the time and date of that action.
(4) Process operations occurring at the time of sampling.

E. Alternate monitoring or sampling requirements that are equivalent or better may be approved by the TCEQ Regional Manager or the TCEQ Regulatory Compliance Section Manager. Alternate requirements must be approved in writing before they can be used for compliance purposes.

25. Visual inspection for carbon build up around the stack shall occur once a week. If carbon build up is noticed, it shall be recorded, the CAS shall be shut down, and corrective action shall be taken in accordance with the system maintenance manual.

<u>Baghouses</u>

26. Emissions controlled with a baghouse shall be subject to the following conditions:

A. Material handling baghouses, designed to meet an emission limit of 0.01 grains PM per dry standard cubic foot of exhaust or 99 percent removal efficiency, properly installed and in good working order, shall control PM, $PM_{10,}$ and PM ≤ 2.5 microns diameter ($PM_{2.5}$) emissions from the following sources:

EPN	Source
FU4A	Conveyor Transfer to Warehouse
FU5B	Material Drop
FU5C	Reclaimer
FU4B	Conveyor Transfer to Prescreening
FU6A	Screening
FU5A-RC	Railcar Load-Out
FU5A-TR	Truck Load-Out
SC-100	Prescreening to Baghouse
SC-101	Warehouse to Baghouse
SC-102	Rail and Truck Loadout to Baghouse

B. Opacity of emissions from any single fabric filter baghouse stack listed in A of this condition shall not exceed 5 percent averaged over a six-minute period. Determination of compliance with this requirement shall be made by first observing for visible emissions during normal plant operations. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from the emission point, opacity shall be determined using the U.S. EPA Title 40 Code of Federal Regulations (40 CFR) Part 60, Appendix A, TM 9. Contributions from uncombined water vapor shall not be included in determining compliance with this condition. Determination of compliance with this requirement shall be performed and the results recorded monthly.

C. The holder of this permit shall install, calibrate, and maintain a device to monitor and record pressure drop in each baghouse. The monitoring device shall be calibrated in accordance with the manufacturer's specifications at least annually and shall be accurate to within a range of ± 0.5 inches water gauge pressure (± 125 pascals); or ± 0.5% of span. Pressure drop readings shall be recorded at least once per day during baghouse operations.

Solids Handling

27. The prilling operations in EPN 5 shall be controlled by a scrubber. The scrubber shall be equipped with a dual mist eliminator system.

28. Visible emissions shall be controlled with the following practices:

A. Exterior belt conveyors shall be equipped with a cover. All other conveyors, bucket elevators, and dry fertilizer handling equipment located outside and not contained within a building shall be enclosed. These covers and enclosures are considered abatement equipment and shall be kept in good repair at all times.

B. All truck and rail loading chutes/spouts shall be equipped with drop socks, or the equivalent, at the drop point to minimize fugitive emissions from loadout areas. These socks shall be kept in good repair at all times. Truck and rail loading facilities constructed after October 1, 2013 shall be equipped with retractable spouts equipped with a vacuum system to collect PM_{10} and route it to a baghouse.

C. Spillage of any prills or granules outside the storage warehouses shall be picked up and properly disposed of on a daily basis.

D. All in-plant roads, parking areas, and traffic areas shall consist of a non-dusty base material, be watered, treated with effective dust suppressant(s), and/or paved and cleaned as necessary to achieve maximum control of dust emissions.

E. No visible emissions from the loadout areas shall leave the property.

Compliance Assurance Monitoring (CAM)

29. The following requirements apply to the capture systems for the Prilling Tower Scrubber, EPN 5; the Granulation Scrubber System, EPN 6; the Prescreening to Baghouse, EPN SC-100; the Warehouse to Baghouse, EPN SC-101; and the Rail and Truck Loadout to Baghouse, EPN SC-102:

    A. Each capture system for each EPN shall comply at least once a year with one of the following:

        (1) Inspect any fan and verify proper operation and inspect the capture system to verify there are no cracks, holes, tears, and other defects; or

        (2) Verify there are no fugitive emissions escaping from the capture system by performing a visible emissions observation for a period of at least six minutes in accordance with 40 CFR Part 60, Appendix A, Test Method 22.

    B. The control device shall not have a bypass.

    C. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when required to be in service under this permit.

    D. If any of the inspections under A of this condition is not satisfactory, the permit holder shall promptly take necessary corrective action. Records shall be maintained documenting the performance and results of the inspections required in this condition.

Recordkeeping

30. Records shall be maintained at the plant site of all repairs and replacements made to equipment associated with the handling of anhydrous NH_3. These records shall be made available during site inspection at the request of personnel from the TCEQ.

31. Records of rolling 12-month period throughput shall be maintained at this facility.

Emission Standards - Addendum

32. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

Operational Limits - Addendum

33. Emission limits for the facility are based on the following:

Source Name	Maximum Hourly Throughput (lbs)	Maximum Rolling 12–Month Throughput (Tons)
Urea Melt Operations	181,830	796,415
Urea Prilling Operation	30,000	106,800
Urea Granules Operations	166,667	730,000

No changes shall be made to the above limitations without prior approval by the TCEQ.

Flares

34. The flares identified as EPNs FL-1, FL-2, FL-1MAINT, and FL-2MAINT shall be designed and operated in accordance with the following requirements:

    A. The flare systems shall be designed such that the stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

    The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

    B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed, at a frequency in accordance with, the manufacturer's specifications.

    C. The flares shall be operated with no less than 98 percent efficiency in disposing of NH_3 captured by the collection system, and no less than 98 percent efficiency in disposing of the carbon compounds captured by the collection system.

    D. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

    E. The permit holder shall demonstrate that the Urea Emergency Flare, EPNs FL-2 or FL-2MAINT, meets at all times the minimum flared gas BTU content limit, as follows:

        (1) The flare shall be equipped so that an unexpected release of gas to the flare automatically results in routing sufficient natural gas to the flare so that the combined stream meets the minimum flared gas BTU content limit.

        (2) The flare shall be equipped and operated so that a planned release of gas to the flare does not take place until sufficient natural gas is routed to the flare so that that the combined stream meets the minimum flared gas BTU content limit.

        (3) The permit holder shall maintain on site records of the flow rate and BTU content of gas released to the flare, together with the time of start and of end of such releases.

(4) The permit holder shall maintain on site records of the flow rate and BTU content of the natural gas routed to the flare, together with the time of start and of end of such natural gas routing.

Boiler

35. Emissions of NO_X, CO, and PM from the Package Boiler 1, EPN PKGB1, shall not exceed the following:

A. 0.01 lb NO_X/MMBtu on an hourly and annual average, controlled with ultra-low-NO_X burners and flue gas recirculation.

B. 0.04 lb CO/MMBtu on an hourly and annual average, controlled with good combustion practices.

C. 5% opacity, controlled with good combustion practices.

Scrubbers

36. The Granulator Scrubber and Cooler Scrubber, EPN 6, shall comply with the following:

A. The absorbers identified as EPN 6 shall operate with no less than 99 percent removal efficiency on an hourly average for PM, PM_{10}, and/or $PM_{2.5}$.

B. Circulation flow to the absorbers identified as EPN 6 shall comply with the following:

(1) The minimum circulation flow to the absorbers shall be 212.2 gpm for the Granulator Scrubber and 143.85 gpm for the Cooler Scrubber prior to the first stack test performed in accordance with Special Condition (SC) No. 37. After the first satisfactory stack test, the flow shall be at least equal to that maintained during the last satisfactory stack test. The circulation rate shall be monitored and recorded at least once an hour.

(2) The flow monitoring devices shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

C. Liquid specific gravity in the absorber identified as EPN 6 shall comply with the following:

(1) The maximum absorber liquid specific gravity shall not exceed 1.15 prior to the first stack test performed in accordance with SC No. 37. After the first satisfactory stack test, the specific gravity shall not exceed the average specific gravity maintained during the last satisfactory stack test. The specific gravity shall be recorded at least every 6 minutes as six minute averages. Urea strength in the liquid may be monitored and recorded as an alternative to absorber liquid specific gravity.

(2) The specific gravity device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 0.02 specific gravity units.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

D. Maximum stack exhaust temperature from the absorbers identified as EPN 6 shall comply with the following:

(1) The maximum stack exhaust temperature shall not exceed 118.04 °F prior to the first stack test performed in accordance with SC No. 37. After the first satisfactory stack test, the temperature shall not exceed the average temperature maintained during the last satisfactory stack test. The temperature shall be recorded at least every 6 minutes as six minute averages.

(2) The temperature monitoring device shall be placed downstream of the combined scrubber exhaust streams and be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of the reading or 2.5 degrees Celsius.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

E. The differential pressure across the absorbers identified as EPN 6 shall comply with the following:

(1) The differential pressure shall be no greater than 16.7 inches of water at the Granulator Scrubber and 3.9 inches of water at the Cooler Scrubber. The differential pressure shall be recorded at least every 6 minutes as six minute averages.

(2) The pressure monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 1.0 inches water gauge pressure or 2.0 percent of span.

(3) Quality-assured or valid data must be generated when the absorbers identified as EPN 6 are operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the absorbers operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Initial Demonstration of Compliance

37. The permit holder shall perform stack sampling and other testing as follows:

A. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Package Boiler 1, EPN PKGB1, for CO, NO_X, PM, PM_{10}, $PM_{2.5}$, and VOC, at maximum firing rate and normal operating rate, to demonstrate compliance with the MAERT and with SC No. 35.

B. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Granulator Scrubber and Cooler Scrubber, EPN 6, for NH3 and PM, PM_{10}, and $PM_{2.5}$, at maximum unit production rate and scrubber flow rates, and at minimum unit production rate and scrubber flow rates, to demonstrate compliance with the MAERT and with SC No. 36.

C. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and EPA Reference Methods.

D. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

E. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.
(2) Date sampling will occur.
(3) Name of firm conducting sampling.
(4) Type of sampling equipment to be used.
(5) Method or procedure to be used in sampling.
(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
(7) Procedure and parameters to be used to determine worst case emissions during the sampling period.

F. The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

G. Air contaminants emitted from EPNs PKGB1 and 6 to be tested for include, but are not limited to, those specified in A and B of this condition.

H. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the modified facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

I. The facility being sampled shall operate at the rate expected to cause maximum emissions for each air contaminate required to be tested during stack emission testing. These conditions and parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition or parameter range is identified in the test notice specified in E of this condition and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

J. During subsequent facility operations, if the test design parameters in I of this condition are greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

K. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled “Chapter 14, Contents of Sampling Reports” of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

38. Sampling ports and platform(s) shall be incorporated into the design of EPNs PKGB1 and 6 according to the specifications set forth in the attachment entitled “Chapter 2, Stack Sampling Facilities” of the TCEQ Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Maintenance, Startup, and Shutdown

39. Urea Plant planned MSS activities may not exceed 144 hours per year, on a rolling 12-month basis, for EPN FL-2MAINT.

This permit authorizes emissions from the urea plant flare (EPN FL-2MAINT), which are shown separately for planned maintenance, startup and shutdown (MSS) activities specified as follows:

(1) maintenance for ammonia and carbamate heat exchangers;

(2) planned shutdown and maintenance of ammonia and carbamate vessels, pumps, and lines.

These planned maintenance, start-up, and shutdown activities are as follows:

(1) Internal and external inspection
(2) Replace gasket
(3) Extended outage
(4) Plug tube
(5) Replace/repair tube
(6) Clean-up
(7) Replace/repair internals
(8) Replace/repair relief valve
(9) Replace process indicators
(10) Replace/repair nozzle
(11) Repair weld failure
(12) Replace the vessel

These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each maintenance activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

A. the physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;

B. the type of planned maintenance, startup, or shutdown activity and the reason for the planned activity;

C. the common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;

D. the date and time of the MSS activity and its duration;

E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the amendment application, PI-1 dated November 2, 2012, consistent with good engineering practice.

APPENDIX 12

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Urea Manufacturing Plant

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (6)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
UF-85 TNK	UF-85 Storage Tank	VOC	0.02	0.05
FU1	Fugitive Emissions - Conveyor	PM	0.06	0.23
		PM_{10}	0.01	0.01
FU2A	Fugitive Emissions - Bulk Loading	PM	0.12	0.43
		PM_{10}	0.12	0.43
		$PM_{2.5}$	0.12	0.43
FU2B	Fugitive Emissions - Bulk Handling North Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2C	Fugitive Emissions - Bulk Handling South Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2D	Fugitive Emissions - Bulk Handling Door	PM	0.01	0.05
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
FU3	Fugitive Emissions - Piping	NH_3	0.22	0.95
FU4A	Conveyor Transfer to New Warehouse	PM	0.03	0.11
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.01

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU5B	Material Drop	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU5C	Reclaimer	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU4B	Conveyor Transfer to Prescreening	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU6A	Screening	PM	0.03	0.11
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03
FU5A-RC	Railcar Load-Out	PM	0.01	0.06
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.01
FU5A-TR	Truck Load-Out	PM	0.07	0.29
		PM_{10}	0.03	0.14
		$PM_{2.5}$	0.01	0.02
SC-100	Prescreening to Baghouse	PM	0.64	2.82
		PM_{10}	0.55	2.39
		$PM_{2.5}$	0.19	0.85
SC-101	Warehouse to Baghouse	PM	0.99	4.33
		PM_{10}	0.84	3.68
		$PM_{2.5}$	0.30	1.30

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
SC-102	Rail and Truck Loadout to Baghouse	PM	1.50	6.57
		PM_{10}	1.28	5.59
		$PM_{2.5}$	0.45	1.97
COOL-1	Cooling Tower - Ammonia	Cl_2	0.03	0.15
		NH_3	1.65	7.24
		PM	1.01	4.41
		PM_{10}	0.21	0.92
		$PM_{2.5}$	0.01	0.01
COOL-2	Cooling Tower - Urea	Cl_2	0.01	0.01
		NH_3	0.18	0.80
		PM	0.07	0.30
		PM_{10}	0.06	0.28
		$PM_{2.5}$	0.01	0.01
5	Prilling Tower Scrubber	NH_3	6.56	23.35
		PM	13.90	49.50
		PM_{10}	12.24	43.57
		VOC	3.28	11.69
2061-MF	Sulfuric Acid Storage Tank	H_2SO_4	0.01	0.01
FL-2	Urea Emergency Flare	CO	1.52	6.66
		NO_X	0.18	0.78
		SO_2	0.06	0.24
		VOC	0.01	0.07
FL-2MAINT	Urea Emergency Flare (maintenance)	NH_3	22.17	0.18
		NO_X	3.04	0.02
4b	Urea Melt Process	NH_3	3.97	0.03

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
6	Granulator Scrubber and Cooler Scrubber	NH_3	132.24	579.21
		PM	22.05	96.56
		PM_{10}	22.05	96.56
		$PM_{2.5}$	19.84	86.91
		VOC	0.12	0.54

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) Cl_2 - chlorine
CO - carbon monoxide
H_2SO_4 - sulfuric acid
NH_3 - ammonia
NO_X - total oxides of nitrogen
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
SO_2 - sulfur dioxide

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

SPECIAL CONDITIONS

Permit Number GHGPSDTX155

Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT), and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

Stripper Vent

2. When the Urea Plant is operating, the holder of this permit shall use the carbon dioxide (CO_2) generated in the ammonia (NH_3) process as a raw material to produce urea and may vent excess CO_2 to the atmosphere through the CO_2 Stripper Vent, Emission Point No. (EPN) 1. If the Urea Plant is not operating, the CO_2 generated in the NH3 process may be vented to the atmosphere through the CO_2 Stripper Vent, EPN 1.

3. Emissions of CO_2 to the atmosphere through the CO_2 Stripper Vent, EPN 1, shall not exceed 1.2 tons CO_2 per ton of NH_3 produced. Calculations shall be performed using Title 40 Code of Federal Regulations (40 CFR) Part 98 Subpart G, for calculating emissions from gaseous feedstock (Equation G-1), to demonstrate compliance.

Reformer

4. The Reformer Furnace 101-B, EPN 2, shall be designed to achieve an energy efficiency of 90% or greater. Calculations shall be performed using process historical data and a method supplied by the furnace vendor to calculate energy efficiency and demonstrate compliance. Records of historical data and method supplied shall be maintained on site.

5. Compliance with the GHG limits at EPN 2 shall be demonstrated through the use of good combustion practices and monitored using 40 CFR Part 98 factors.

6. The temperature of the reformer shall be recorded at least every 6 minutes as six minute averages. Records of the temperature shall be maintained at the plant site and made available to Texas Commission on Environmental Quality (TCEQ) personnel upon request.

   Quality-assured or valid data must be generated when the reformer is operating, except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor breakdown, out-of-control operation producing inaccurate data, repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in hours) that the reformer operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

Flares

7. The flares identified as EPNs FL-1, FL-2, and FL-2MAINT shall be designed and operated in accordance with the following requirements:

   A. The flare systems shall be designed such that the stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed, at a frequency in accordance with, the manufacturer's specifications.

C. The flares shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

D. The flares shall be operated with good combustion practices, including training of operators for routine and planned maintenance, startup, and shutdown (MSS) operations.

E. The permit holder shall demonstrate that the Urea Emergency Flare, EPNs FL-2 or FL-2MAINT, meets at all times the minimum flared gas BTU content limit, as follows:

(1) The flare shall be equipped so that an unexpected release of gas to the flare automatically results in routing sufficient natural gas to the flare so that the combined stream meets the minimum flared gas BTU content limit.

(2) The flare shall be equipped and operated so that a planned release of gas to the flare does not take place until sufficient natural gas is routed to the flare so that that the combined stream meets the minimum flared gas BTU content limit.

(3) The permit holder shall maintain on site records of the flow rate and BTU content of gas released to the flare, together with the time of start and of end of such releases.

(4) The permit holder shall maintain on site records of the flow rate and BTU content of the natural gas routed to the flare, together with the time of start and of end of such natural gas routing.

Boiler

8. The Package Boiler 1, EPN PKGB1, shall be designed to achieve a thermal efficiency of 80% or greater. Calculations shall be performed using the American Society of Mechanical Engineers (ASME) Performance Test Codes to calculate thermal efficiency and demonstrate compliance. Records of the ASME Performance Test Codes shall be maintained on site.

9. The Package Boiler 1, EPN PKGB1, shall be equipped with air inlet controls and heat recovery.

Maintenance, Startup, and Shutdown

10. Planned maintenance activities associated with the Urea Emergency Flare, EPN FL-2MAINT, may not exceed 144 hours per year, on a rolling 12-month basis.

Calculation Methodology

11. Calculation of emissions of CO_2, methane (CH_4), and nitrous oxide (N_2O), to determine compliance with carbon dioxide equivalents (CO_2e) emission limitations in the MAERT, shall be calculated by the end of the current month for the previous rolling 12-month basis, as follows:

    A. Any referenced methodology of 40 CFR Part 98 is modified as follows:

        (1) References to annual measurements are to be construed as a rolling 12-month total if the variable is measured on a monthly or more frequent basis.

        (2) References to annual measurements that are not measured at a frequency greater than one month (e.g. quarterly or semiannual) are to be construed as the average of the most recent measurements based on a year (e.g. average of 4 quarterly or 2 semiannual). This is a rolling basis.

    B. For the furnace identified as EPN 2 and the flares identified as EPNs FL-1 and FL-2, calculated as follows:

        (1) Calculate CO_2 emissions using the rolling 12-month average total hydrocarbon content of the vapors routed to combustion, assuming 12 pounds of carbon per 14 pounds of volatile organic compounds (VOC) vapors.

        (2) Use the default CH_4 and N_2O emission factors contained in Table C-2 of 40 CFR Part 98 and the total annual heat input of the combusted vapors.

    C. For the flare identified as EPN FL-2MAINT, calculated using vendor and plant operation data.

    D. For the Package Boiler 1, EPN PKGB1, calculated as follows:

        (1) Calculate CO_2 emissions based on the carbon content and high heating value (HHV) of the fuel.

        (2) Use the default CH_4 and N2O emission factors in Table C-2 of 40 CFR Part 98.

12. The permit holder shall calculate the CO_2e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (78 FR 71904).

Recordkeeping

13. The permit holder shall maintain records to demonstrate compliance with this permit in a form suitable for inspection for a period of five years after collection and shall make them available upon request to representatives of the TCEQ, EPA, or any local air pollution control agency having jurisdiction.

Permit Effective Dates

14. Special Condition (SC) Nos. 1 through 13 and the MAERT will become effective upon start of operation of the new sources and modifications authorized in this permit action. The holder of this permit shall retain copy of the notification to the TCEQ Amarillo Regional Office of the start of operation of the new sources and modifications authorized in this permit action.

Dated January 5, 2017

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 19778 and PSDTX1326

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data (6)

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
1	CO_2 Stripper Vent	CO	6.40	27.79
2	Reformer Furnace 101-B	CO	40.64	34.43
		NO_X	71.54	304.39
		PM	8.20	35.90
		PM_{10}	7.77	34.01
		$PM_{2.5}$	7.07	30.96
		SO_2	1.28	5.61
		VOC	5.93	25.98
T-4	aMDEA Storage Tank	VOC	0.01	0.01
2-MAINT	Reformer Maintenance	CO	225.00	4.50
		NO_X	250.00	5.00
H-5	Start-Up Heater	CO	1.48	0.02
		NO_X	1.76	0.03
		PM	0.13	0.01
		PM_{10}	0.13	0.01
		$PM_{2.5}$	0.13	0.01
		SO_2	0.26	0.01
		VOC	0.10	0.01
FU6	Fugitives (5)	NH_3	0.23	1.01
FU-CHLR	Fugitives (5)	NH_3	0.01	0.01
T-7	aMDEA Storage Tank	VOC	0.20	0.01
SP-73	Shift Converters	CO	3007.81	60.16

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FL-1	Ammonia Emergency Flare	CO	0.26	1.16
		NO_X	0.03	0.13
		SO_2	0.01	0.04
		VOC	0.01	0.01
FL-1MAINT	Ammonia Emergency Flare (maintenance)	NH_3	0.69	0.18
		NO_X	0.09	0.02
4b	Urea Melt Process	NH_3	3.97	0.03
PKGB1	Package Boiler 1	CO	9.60	42.05
		NO_X	2.40	10.51
		PM	1.79	7.83
		PM_{10}	1.69	7.42
		$PM_{2.5}$	1.54	6.76
		SO_2	0.28	1.22
		VOC	1.29	5.67
6	Granulator Scrubber and Cooler Scrubber	NH_3	132.24	579.21
		PM	22.05	96.56
		PM_{10}	22.05	96.56
		$PM_{2.5}$	19.84	86.91
		VOC	0.12	0.54
UF-85 TNK	UF-85 Storage Tank	VOC	0.02	0.05
FU1	Fugitive Emissions - Conveyor	PM	0.06	0.23
		PM_{10}	0.01	0.01
FU2A	Fugitive Emissions - Bulk Loading	PM	0.12	0.43
		PM_{10}	0.12	0.43
		$PM_{2.5}$	0.12	0.43

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU2B	Fugitive Emissions - Bulk Handling North Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2C	Fugitive Emissions - Bulk Handling South Fans	PM	0.06	0.25
		PM_{10}	0.02	0.09
		$PM_{2.5}$	0.02	0.09
FU2D	Fugitive Emissions - Bulk Handling Door	PM	0.01	0.05
		PM_{10}	0.01	0.02
		$PM_{2.5}$	0.01	0.02
FU3	Fugitive Emissions - Piping (5)	NH_3	0.22	0.95
FU4A	Conveyor Transfer to New Warehouse	PM	0.03	0.11
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.01
FU5B	Material Drop	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU5C	Reclaimer	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU4B	Conveyor Transfer to Prescreening	PM	0.01	0.01
		PM_{10}	0.01	0.01
		$PM_{2.5}$	0.01	0.01
FU6A	Screening	PM	0.03	0.11
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.03

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FU5A-RC	Railcar Load-Out	PM	0.01	0.06
		PM_{10}	0.01	0.03
		$PM_{2.5}$	0.01	0.01
FU5A-TR	Truck Load-Out	PM	0.07	0.29
		PM_{10}	0.03	0.14
		$PM_{2.5}$	0.01	0.02
SC-100	Prescreening to Baghouse	PM	0.64	2.82
		PM_{10}	0.55	2.39
		$PM_{2.5}$	0.19	0.85
SC-101	Warehouse to Baghouse	PM	0.99	4.33
		PM_{10}	0.84	3.68
		$PM_{2.5}$	0.30	1.30
SC-102	Rail and Truck Loadout to Baghouse	PM	1.50	6.57
		PM_{10}	1.28	5.59
		$PM_{2.5}$	0.45	1.97
COOL-1	Cooling Tower - Ammonia	Cl_2	0.03	0.15
		NH_3	1.65	7.24
		PM	1.01	4.41
		PM_{10}	0.21	0.92
		$PM_{2.5}$	0.01	0.01
COOL-2	Cooling Tower - Urea	Cl_2	0.01	0.01
		NH_3	0.18	0.80
		PM	0.07	0.30
		PM_{10}	0.06	0.28
		$PM_{2.5}$	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FL-2	Urea Emergency Flare	CO	1.52	6.66
		NO_X	0.18	0.78
		SO_2	0.06	0.24
		VOC	0.01	0.07
FL-2MAINT	Urea Emergency Flare (maintenance)	NH_3	22.17	0.18
		NO_X	3.04	0.02
5	Prilling Tower Scrubber	NH_3	6.56	23.35
		PM	13.90	49.50
		PM_{10}	12.24	43.57
		VOC	3.28	11.69
2061-MF	Sulfuric Acid Storage Tank	H_2SO_4	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3)
Cl_2	-	chlorine
CO	-	carbon monoxide
H_2SO_4	-	sulfuric acid
NH_3	-	ammonia
NO_x	-	total oxides of nitrogen
PM	-	total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10}	-	total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$	-	particulate matter equal to or less than 2.5 microns in diameter
SO_2	-	sulfur dioxide
VOC	-	volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) These allowable emission rates become effective in accordance with Special Condition (SC) No. 31.

Date: January 5, 2017

Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPSDTX155

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are authorized by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities authorized by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
1	CO_2 Stripper Vent	CO_2 (5)	843,150
		CH_4 (5)	--
		N_2O (5)	--
		CO_2e	843,150
		GHG mass basis	843,150
2	Reformer Furnace 101-B	CO_2 (5)	563,437
		CH_4 (5)	10.62
		N_2O (5)	1.06
		CO_2e	564,019
		GHG mass basis	563,449
FL-1	Ammonia Emergency Flare	CO_2 (5)	157
		CH_4 (5)	<0.01
		N_2O (5)	<0.01
		CO_2e	157
		GHG mass basis	157

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
PKGB1	Package Boiler 1	CO_2 (5)	122,932
		CH_4 (5)	2.32
		N_2O (5)	0.23
		CO_2e	123,059
		GHG mass basis	122,934
FL-2	Urea Emergency Flare	CO_2 (5)	1,416
		CH_4 (5)	0.03
		N_2O (5)	<0.01
		CO_2e	1,418
		GHG mass basis	1,416
FL-2MAINT	Urea Emergency Flare (maintenance)	CO_2 (5)	5.91
		CH_4 (5)	--
		N_2O (5)	--
		CO_2e	5.91
		GHG mass basis	5.91

Emission Sources - Maximum Allowable Emission Rates

(1) Emission point identification – either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) CO_2 - carbon dioxide
CH_4 - methane
N_2O - nitrous oxide
CO_2e - carbon dioxide equivalents based on the following Global Warming Potentials (12/2014): CO_2 (1), CH_4 (25), N_2O (298)
GHG - Greenhouse gas

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.

(5) Emission rate is given for informational purposes only and does not constitute enforceable limit.

Date: January 5, 2017